# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE: 06/14/13 API#: 035-24-7

	4			1.		
Farm na		Operator Well		`	<del></del>	
LOCAT	MON: Elevation: 934	Quadrangle:	RIPLES	7.5		
	District: WASHINGTON	County:	TACK	رره		
	Latitude: Feet South of Dcg. Longitude Feet West of Dcg.	471 Min.	3 6 " Sec	<b>)</b> ,		
			•			
	Company: LKENERGIES SO	1-18912	2 AUPE	TROLLI	m. IN	C.
	j	Carino &	Used in	Left in well	Cement tul	
	Address: POBOX 98 BLO BOXO	Tubing	drilling	> 6CC-1	up Cu. Ft.	
	The Post			1987'	C75	
	,	7"		27571	( ) = ( ) =	
1 1 8 0 0 0	Inspector:	4 1/2"		2190	605AG	
PEPORT	Date Permit Issued: [   12/99					
FILE	Date Well Work Commenced: DEC 1999					
Ast	Date Well Work Completed: DEC1999					
py	Verbal Plugging:			-	RECEIV	
BOB	Date Permission granted on:			Ut	ice of Oil	& Gas
ATTHE	Rotary Cable Rig			ļ	100 100	1
MJ NY	Total Vertical Depth (ft):	27%		<u> </u>	JUN 1 9 2	ปร
	Total Measured Depth (ft):	2750		100	V Donoses	
	Fresh Water Depth (ft.):	<u> </u>		Foring	Departm	ent of
	Salt Water Depth (ft.): PLA			LIVIIO	nmental F	rotection
	Is coal being mined in area (N/Y)?					]
	Coal Depths (ft.):				<u> </u>	
	Void(s) encountered (N/Y) Depth(s) N/A-				<u></u>	]
∩Pī	EN FLOW DATA (If more than two producing formation	ons please inclu	de additional d	ata on senarate si	nect)	
	Producing formation BERES Pay:	zone depth (ft)	223	27 <i>35</i>		
(	Gas: Initial open flowMCF/d Oil; Initial open fl		61/d			
	Final open flow LoO MCF/d Final open flow					
	Time of open flow between initial and final tests	Hours				
	partic fock kiessmebarg (amiace bressme) ar	1104	• •			
		ne depth (ft)				
(	Gas: Initial open flow MCF/d Oil: Initial open fl		b]/d .			
	Final open flow MCF/d Final open flow Time of open flow between initial and final tests	Hours				
_ \$					-115	15 THE
ICI	Static rock Pressure	eacy or	× 77415	SINFO.	lar this documen	محمور ر حاد
I COLULY	y under penalty of law that I have personally examined attachments and that, based on my inquiry of those indi-	ome om remittee	***************************************	INCHAN CRAMMINA	. 422 441-4	
	e information is true, accurate, and complete.	4 4				
BEST	1 INFO ECSTELLA MA	self c		0-14-1	3	
	GATHE Signature	<i>J</i>		Date		

35-0247/

Were core samples taken? Yes No Were cuttings caught during drilling? Yes No
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list SAMA INDUCTION
NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:
2729-2735-PERFORDED-24HOLD
STIMULAND WITH 1000bb/WAZRAND
20,000 bs of 5,000.
Plug Back Details Including Plug Type and Depth(s):
Formations Encountered: Top Depth 2729/2735 Bottom Depth Surface:
Formations Encountered: Top Depth 2729/2735 Bottom Depth Surface:  RECEIVED Office of Oil & Gas
Surface:  DECFIVED
RECEIVED Office of Oil % Gas  JUN 19 2013
RECEIVED Office of Oil & Gas  JUN 1.9 2013
RECEIVED Office of Oil % Gas  JUN 19 2013
RECEIVED Office of Oil % Gas  JUN 19 2013
RECEIVED Office of Oil % Gas  JUN 19 2013
RECEIVED Office of Oil % Gas  JUN 19 2013
RECEIVED Office of Oil % Gas  JUN 19 2013
RECEIVED Office of Oil % Gas  JUN 19 2013

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

Farm na	me: SYDNOR	Operator Well	No.:	<u></u>		
LOCAT	TON: Elevation: POG + F.  District: WASHWGTON Latinda: Foot South of 30 - Dog	Ouadrangle:	RIPLE	y 7.5		
	District: WASHINGTON	County:	TACKS	الرة		
	District: WASHINGTON  Latitude: Feet South of 3P Deg.  Longitude Feet West of 1 Deg.	47 Min.	3 6 Sec.			
	Company: LKENERGIES INC 66 L	IPAZD	N PETROC	EUM, INC		
	Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
	Address.	95/5"		2501%	C75	
	Agent: Bob Matthey To	7"		1850ft	C75	
	Inspector: LARKY PARKESH	<b>4</b> %"		2600	50 SACE	5
	Date Permit Issued: ///2/99					
	Date Well Work Commenced: DEC. 1999					
	Date Well Work Completed: DEC1999					
	Verbal Plugging:					
	Date Permission granted on: 11/12/96			REC	EIVED	
	Rotary Cable Rig				f Oil & Ga	c
	Total Vertical Depth (ft):	2620'		011106.0	Oli bi Ga	5
	Total Measured Depth (ft):	26101		JUN	1 9 2013	
	Fresh Water Depth (ft.):	NIA		140		
	Salt Water Depth (ft.):	10/17	-	WV Dep	artment c	f
	is cont bonig inmed in trea (17/1)!			nvironmer	tal Protec	tion
	Coal Depths (n.):					
OPE	N FLOW DATA (If more than two producing formation	ons please inclu	de additional de	ita on separate sh	ect)	
	Producing formation BEREA Pay: as: Initial open flow MCF/d Oil: Initial open fl		2560+	Т.		
·	Final open flow 60 MCF/d Final open flow					
	Time of open flow between initial and final tests					
S	tatic rock Pressure <u>436</u> psig (surface pressure) af	iter <u>/ 2</u> Hou	rs			
S	econd producing formationPay zo	ne depth (ft)				
G	as: Initial open flowMCF/d Oil: Initial open fl		bl/d			
	Final open flow MCF/d Final open flow Time of open flow between initial and final tests	100000000000000000000000000000000000000				
· s	tatic rock Pressurepsig (surface pressure) af					
Landifi	under penalty of law that I have personally examined	and am familiae	with the inform	nation submitted	on this documen	t and
all the a	ttachments and that, based on my inquiry of those indi-	viduals immedia	ately responsibl	e for obtaining th	ne information 1 l	elieve
that the	information is true, accurate, and complete.	mata	quarant	to The	accurac	en d
the	information This ja they lived	est in fil	smothing.	14-137	gather	1
	Signature			Date		Mos

35.02472

Were core samples taken? YesNoNoNoNoNo
NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:
2560-25-66 - 5 TIMOLATED WITHIN
2560-2566 - 571MOLATED WITHIN 20,000 POUNDS OF SAND AND 100066/A WARE
Plug Back Details Including Plug Type and Depth(s):
Formations Encountered: BEREA Top Depth 2566, 2566 Bottom Depth Surface:
·

API#: 47-013-04613

State of West Virginia Department of Environmental Protection Office of Oil and Gas

ORIGINALLY

Well Operator	's Report of We	ell Work		6/1/10
Farm name: Bruce Jett	Oper	ator Well No.:_	Jett#2	
LOCATION: Elevation: 778	Quad	rangle:	Tariff	
District: Washington	Coun	ity:	Calhoun	
District: Washington Latitude: 8150 Feet South of 38	Deg45	. Min. 00	Sec.	
Longitude 5800 Feet West of 81	Deg7	Min30	Sec.	
Company: Boggs Natural Gas, FLP		١	1	1
· •	Casing &	Used in	Left in well	Cement fill
Address: 1248 Charleston Road	Tubing 13-3/8"	drilling		up Cu. Ft.
Spencer, WV 25276	13-3/6			<del> </del>
Agent: Harry C. Boggs	9-5/8"			<del></del>
Inspector:	7-5/0			
Date Permit Issued: 6/9/06	711	1672'	1672	
Date Well Work Commenced: 5/07/08	<del></del>	1072	1072	
Date Well Work Completed: 5/14/08	4-1/2"	5469'	5469 <b>*</b>	-
Verbal Plugging:	4-1/2	2409	<u> </u>	
Date Permission granted on:				<del> </del>
Rotary X Cable Rig	-			
Total Depth (feet): 5509				
Fresh Water Depth (ft.): 1076		***************************************		
		_		
Salt Water Depth (ft.): 1575				
	4			
Is coal being mined in area (N/Y)? NO	j			
Coal Depths (ft.):				
OPEN FLOW DATA				
Producing formation	Pay zo	one depth (ft)		
Gas: Initial open flowMCF/d Oil:	Initial open flo	owF	Bbl/d	
Final open flowMCF/d Fi	inal open flow	B	bl/d	
Time of open flow between initial and f	inal tests	Hour	·s	
Static rock Pressurepsig (surface	e pressure) aft	terHo	urs	Received Office of Oil & Gas
Second producing formation	Pay zon	e depth (ft)		•
Gas: Initial open flow MCF/d Oil:	Initial open flo	ow F	Bbl/d	1 0 2012
Final open flowMCF/d Fi				JUN 1 0 2013
Time of open flow between initial and f	inal tests	Hour	'S	
Static rock Pressure psig (surface	e pressure) aft	er Ho	urs	
NOTE: ON BACK OF THIS FORM PUT THE FINTERVALS, FRACTURING OR STIMULATIN LOG WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE VICENCE OF THE	OLLOWING: G, PHYSICAI GEOLOGICAI	1). DETAILS CHANGE, E	OF PERFORAT TC. 2). THE W	ELL

Signed:

Date: March 11, 2009

#### FORMATIONS:

0 - 60	Soil & Shale
60 - 200	Sandy Shale
200 - 230	Sand & Shale
230 - 265	Red Rock
265 - 390	Red Rock & Shale
390 - 1100	Sand & Shale
1100 - 1182	Salt Sand (Wet)
1182 - 1500	Sand & Shale
1500 - 1597	Salt & Sand (2" water)
1597 - 1806	Sand & Shale
1806 - 1836	Little Lime
1836 - 1840	Shale & Sand
1840 - 1870	Big Lime
1870 - 2350	Sand & Shale
2350 - 5509	Shale (T.D)

#### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	5/8/2013
API #:	47-103-02766

Farm name: John W. & Florence E. Kilcoyne	Operator We	II No.: <u>513828</u>		
LOCATION: Elevation: 860'	_ Quadrangle: _	Big Run	<del></del>	
District: Grant	County: Wel	zel. WV		
Latitude: 8,360' Feet South of 39 Deg.			c.	<del></del>
Longitude 5,205' Feet West of 80 Deg.	. 32 Min	. <u>30</u> Se	<b>c.</b>	
Company: EQT Production Company				
Address: EQT Plaza, Suite 1700	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
625 Liberty Avenue, Pittsburgh, PA 15222	26	80	80	126
Agent: Cecil Ray	20	318	318	590
Inspector: David Scranage	13 3/8	859	859	860
Date Permit Issued: 6/13/2012	9 5/8	3,062	3,062	1,714
Date Well Work Commenced: 6/25/2012	5 1/2	11,657	11,657	1,889
Date Well Work Completed: 9/8/2012			<u> </u>	1
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig V				
Total Vertical Depth (ft): 7,051'				
Total Measured Depth (ft): 11,657'				
Fresh Water Depth (ft.): 235'				
Salt Water Depth (ft.): 1,511'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 400', 585', 614'				
Void(s) encountered (N/Y) Depth(s) No				
	_L		.l	
OPEN FLOW DATA (If more than two producing formatic Producing formation Marcellus Pay	ons please inclu	de additional d	ata on separate si	heet)
Gas: Initial open flow MCF/d Oil: Initial open flow		bl/d	D-	-
Final open flow 8,784 MCF/d Final open flow		01/d	Hec	Pavi9
Time of open flow between initial and final tests	Hours			
Static rock Pressure 2,900 psig (surface pressure) at	fter <sup>96</sup> Hou	rs	MAY	eived 5 2013
Second producing formation No second formation. Pay 20.	na danth (A)			2 2013
Gas: Initial open flow MCF/d Oil: Initial open flow	• • /—	bl/d •	Office of C	Oil and Gas
Final open flow MCF/d Final open flow		ol/d	NV Dept. of Enviro	Dil and Gas Onmental Protection
Time of open flow between initial and final tests				TO T
Static rock Pressurepsig (surface pressure) af	fterHou	rs		
I certify under penalty of law that I have personally examined all the attachments and that, based on my inquiry of those inditated that the information is true, accurate, and complete.	and am familiar viduals immedia	with the informately responsible	nation submitted le for obtaining t	on this document and he information I believe
La Mal	60	E/0 <i>1</i>	2013	
Signature /			Date	

Were core samples taken? YesNo_X	Were cuttings caught during drilling? Yes X No
Were Electrical, Mechanical or Geophysical logs recorde	led on this well? If yes, please list Yes: MWD Gamma, Gyro, & CBL Log
FRACTURING OR STIMULATING, PHYSICAL C	FOLLOWING: 1). DETAILS OF PERFORATED INTERVAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIONS OF ALL FORMATIONS, INCLUDIN ROM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
See Attachment	
Dive Deal Death Tool 1 and 1 and 1 and 1	
Plug Back Details Including Plug Type and Depth(s): Pl	Pumped solid cement plug from 6,125' to 5,778'
Formations Encountered: 1 Surface:	Top Depth / Bottom Depth
Sand/Shale / 0 / 400 / 400 Coal / 400 / 410 /	/ 10 Sand/Shale / 410 / 585 / 175
	18 Coal / 614 / 625 / 11 Sand/Shale / 625 / 3,309 / 2,69
	162 / 104 SPEECHLEY / 3,462 / 3,873 / 411
BALLTOWN A / 3,873 / 4,340 / 466 RILEY /	/4,340/4,985/645 BENSON/4,985/5,326/340
ALEXANDER / 5,326 / 6,554 / 1,227 RHINE	
SONYEA / 6,554 / 6,724 / 169 MIDDLESEX	X / 6,724 / 6,776 / 52
GENESSEE / 6,776 / 6,859 / 83 GENESEC	O / 6,859 / 6,893 / 33
TULLY / 6,893 / 6,922 / 29 HAMILTON / 6,9	,922 / 7,012 / 89
MARCELLUS SHALE / 7,012/ 7,051 / 39	
	Received
	MAY 1 5 2013

Office of Off and Gas WV Dept. of Environmental Protection

EQT WR-	Completion	Attachment	Well 513828	Treatment	Summary
Stage 1	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/7/2013	From / To 11495 - 11585	# of perfs	BD Press 0.00	<b>ATP Psi</b> 8,582.00	SIP Detail 5 Min: 3734
Avg Rate 65.20	Max Press PSI 9,055.00	<b>ISIP</b> 4,354.00	Frac Gradient 1.05		10 Min: 3641 15 Min: 3598
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
197,232.00	10,009.00		3,000.00		
Stage 2	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/8/2013	From / To 11345 - 11467	# of perfs	<b>BD Press</b> 7,402.00	<b>ATP Psi</b> 8,389.00	SIP Detail 5 Min: 4222 10 Min: 3923
Avg Rate 82.40	Max Press PSI 8,782.00	<b>ISIP</b> 5,341.00	Frac Gradient 1.19		15 Min: 3767
<b>Sand</b> 203,375.00	<b>Water-bbl</b> 5,378.00	SCF N2	<b>Acid-Gal</b> 750.00		
Stage 3	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/8/2013	From / To 11195 - 11317	# of perfs	<b>BD Press</b> 6,407.00	<b>ATP Psi</b> 8,300.00	SIP Detail 5 Min: 5045
Avg Rate 91.30	Max Press PSI 8,831.00	ISIP 5,800.00	Frac Gradient 1.26		10 Min: 4621 15 Min: 4340
<b>Sand</b> 200,143.00	<b>Water-bbl</b> 5,283.00	SCF N2	<b>Acid-Gal</b> 750.00		
Stage 4	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/8/2013	<b>From / To</b> 11045 - 11167	# of perfs	<b>BD Press</b> 7,895.00	<b>ATP Psi</b> 8,307.00	SIP Detail 5 Min: 4902
Avg Rate 100.10	Max Press PSI 8,817.00	ISIP 5,173.00	Frac Gradient 1.17	Hece	10 Min: 4519 15 Min: 4275
<b>Sand</b> 200,221.00	<b>Water-bbl</b> 5,179.00	SCF N2	<b>Acid-Gal</b> 750.00	MAY 15	2013

<b>Stage</b> 5	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/8/2013	<b>From / To</b> 10895 - 11017	# of perfs	<b>BD Press</b> 6,161.00	<b>ATP Psi</b> 8,554.00	<b>SIP Detail</b> 5 Min: 5423 10 Min: 5098
<b>Avg Rate</b> 97.00	<b>Max Press PSI</b> 8,750.00	<b>ISIP</b> 6,035.00	Frac Gradient 1.29		15 Min: 4821
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
201,331.00	5,193.00		750.00		
Stage 6	Formation MARCELLUS	Frac Type Slickwater	_		
<b>Date</b> 2/9/2013	<b>From / To</b> 10745 - 10867	# of perfs	<b>BD Press</b> 6,008.00	<b>ATP Psi</b> 8,049.00	SIP Detail 5 Min: 5221 10 Min: 4910
<b>Avg Rate</b> 100.10	<b>Max Press PSI</b> 8,247.00	<b>ISIP</b> 5,792.00	Frac Gradient 1.26		15 Min: 4660
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
200,198.00	5,165.00		750.00		
Stage 7	Formation MARCELLUS	Frac Type Slickwater			
<del>-</del>		• •	<b>BD Press</b> 6,852.00	<b>ATP Psi</b> 8,056.00	SIP Detail 5 Min: 5077
7 Date	MARCELLUS From / To	Slickwater			
7	From / To 10445 - 10567 Max Press PSI	Slickwater # of perfs ISIP	6,852.00 Frac Gradient		5 Min: 5077 10 Min: 4682
7 Date 2/9/2013 Avg Rate 100.30	From / To 10445 - 10567 Max Press PSI 8,458.00	Slickwater # of perfs ISIP 5,875.00	6,852.00 Frac Gradient 1.27		5 Min: 5077 10 Min: 4682
7	From / To 10445 - 10567 Max Press PSI 8,458.00 Water-bbl	Slickwater # of perfs ISIP 5,875.00	6,852.00  Frac Gradient 1.27  Acid-Gal		5 Min: 5077 10 Min: 4682
7	From / To 10445 - 10567  Max Press PSI 8,458.00  Water-bbl 5,634.00  Formation	# of perfs  # SIP 5,875.00  SCF N2	6,852.00  Frac Gradient 1.27  Acid-Gal	<b>ATP Psi</b> 8,044.00	5 Min: 5077 10 Min: 4682 15 Min: 4433 SIP Detail 5 Min: 4711
7	From / To 10445 - 10567  Max Press PSI 8,458.00  Water-bbl 5,634.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 5,875.00  SCF N2  Frac Type Slickwater	6,852.00  Frac Gradient 1.27  Acid-Gal 750.00	ATP Psi 8,044.00	5 Min: 5077 10 Min: 4682 15 Min: 4433
7	From / To 10445 - 10567  Max Press PSI 8,458.00  Water-bbl 5,634.00  Formation MARCELLUS  From / To 10567 - 11445  Max Press PSI	# of perfs  ISIP 5,875.00  SCF N2  Frac Type Slickwater # of perfs  ISIP	6,852.00  Frac Gradient 1.27  Acid-Gal 750.00  BD Press 6,047.00  Frac Gradient	<b>ATP Psi</b> 8,044.00	5 Min: 5077 10 Min: 4682 15 Min: 4433 SIP Detail 5 Min: 4711

<b>Stage</b> 9	Formation MARCELLUS	<b>Frac Type</b> Slickwater			
<b>Date</b> 2/9/2013	From / To 10295 - 10417	# of perfs	<b>BD Press</b> 5,941.00	<b>ATP Psi</b> 7,873.00	<b>SIP Detail</b> 5 Min: 4917 10 Min: 4555
Avg Rate 99.00	<b>Max Press PSI</b> 8,297.00	<b>ISIP</b> 5,570.00	Frac Gradient 1.22		15 Min: 4321
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
199,615.00	5,262.00		750.00		
Stage 10	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/10/2013	From / To 10145 - 10267	# of perfs	<b>BD Press</b> 6,283.00	<b>ATP Psi</b> 8,435.00	SIP Detail 5 Min: 5461 10 Min: 5116
<b>Avg Rate</b> 99.90	<b>Max Press PSI</b> 8,750.00	<b>ISIP</b> 6,184.00	Frac Gradient 1.31		15 Min: 4833
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
201,245.00	5,181.00		750.00		
Stage 11	Formation MARCELLUS	Frac Type Slickwater			. <b></b>
			<b>BD Press</b> 7,376.00	<b>ATP Psi</b> 8,474.00	SIP Detail 5 Min: 5348
11 Date	MARCELLUS From / To	Slickwater			
Date 2/10/2013  Avg Rate 94.00  Sand	From / To 9995 - 10117 Max Press PSI	Slickwater # of perfs ISIP	7,376.00  Frac Gradient		5 Min: 5348 10 Min: 4970
Date 2/10/2013 Avg Rate 94.00	From / To 9995 - 10117 Max Press PSI 8,816.00	# of perfs  # SIP 5,976.00	7,376.00 Frac Gradient 1.28		5 Min: 5348 10 Min: 4970
Date 2/10/2013  Avg Rate 94.00  Sand Proppant	From / To 9995 - 10117 Max Press PSI 8,816.00 Water-bbl	# of perfs  # SIP 5,976.00	7,376.00  Frac Gradient 1.28  Acid-Gal		5 Min: 5348 10 Min: 4970
Date 2/10/2013  Avg Rate 94.00  Sand Proppant 201,309.00  Stage	From / To 9995 - 10117  Max Press PSI 8,816.00  Water-bbl 5,148.00  Formation	# of perfs  ISIP 5,976.00  SCF N2	7,376.00  Frac Gradient 1.28  Acid-Gal		5 Min: 5348 10 Min: 4970 15 Min: 4697 SIP Detail 5 Min: 5223
Date 2/10/2013  Avg Rate 94.00  Sand Proppant 201,309.00  Stage 12  Date	From / To 9995 - 10117  Max Press PSI 8,816.00  Water-bbI 5,148.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 5,976.00  SCF N2  Frac Type Slickwater	7,376.00  Frac Gradient 1.28  Acid-Gal  750.00  BD Press	8,474.00 ATP Psi	5 Min: 5348 10 Min: 4970 15 Min: 4697
Date 2/10/2013  Avg Rate 94.00  Sand Proppant 201,309.00  Stage 12  Date 2/10/2013  Avg Rate	From / To 9995 - 10117  Max Press PSI 8,816.00  Water-bbI 5,148.00  Formation MARCELLUS  From / To 9845 - 9967  Max Press PSI	# of perfs  ISIP 5,976.00  SCF N2  Frac Type Slickwater # of perfs	7,376.00  Frac Gradient 1.28  Acid-Gal  750.00  BD Press 6,680.00  Frac Gradient	8,474.00 ATP Psi	5 Min: 5348 10 Min: 4970 15 Min: 4697 SIP Detail 5 Min: 5223 10 Min: 4936

0.					105.0
Stage 13	Formation MARCELLUS	<b>Frac Type</b> Slickwater			
<b>Date</b> 2/10/2013	<b>From / To</b> 9695 - 9817	# of perfs	<b>BD Press</b> 6,893.00	<b>ATP Psi</b> 8,521.00	SIP Detail 5 Min: 5442
Avg Rate 92.40	Max Press PSI 8,796.00	<b>ISIP</b> 5,894.00	Frac Gradient 1.27		10 Min: 5210 15 Min: 5039
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
203,804.00	5,385.00		750.00		
Stage 14	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/10/2013	<b>From / To</b> 9545 - 9667	# of perfs	<b>BD Press</b> 7,393.00	<b>ATP Psi</b> 8,513.00	<b>SIP Detail</b> 5 Min: 5141 10 Min: 4888
Avg Rate 92.90	Max Press PSI 8,711.00	<b>ISIP</b> 5,656.00	Frac Gradient 1.24		15 Min: 4683
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
201,449.00	5,218.00		750.00		
<b>Stage</b> 15	Formation MARCELLUS	Frac Type Slickwater			
10 mm			BD Press 7,002.00	<b>ATP Psi</b> 8,505.00	SIP Detail 5 Min: 5341
15 Date	MARCELLUS From / To	Slickwater		540 DOM: 40 TO 2700000	
Date 2/10/2013  Avg Rate 90.40  Sand	From / To 9395 - 9517 Max Press PSI	Slickwater # of perfs ISIP	7,002.00	540 DOM: 40 TO 2700000	5 Min: 5341 10 Min: 5075
Date 2/10/2013  Avg Rate 90.40	From / To 9395 - 9517 Max Press PSI 8,731.00	# of perfs  ISIP 5,775.00	7,002.00 Frac Gradient 1.25	540 DOM: 40 TO 2700000	5 Min: 5341 10 Min: 5075
Date 2/10/2013  Avg Rate 90.40  Sand Proppant	From / To 9395 - 9517 Max Press PSI 8,731.00 Water-bbl	# of perfs  ISIP 5,775.00	7,002.00  Frac Gradient 1.25  Acid-Gal	540 DOM: 40 TO 2700000	5 Min: 5341 10 Min: 5075
Date 2/10/2013  Avg Rate 90.40  Sand Proppant 201,758.00  Stage	From / To 9395 - 9517  Max Press PSI 8,731.00  Water-bbl 5,106.00  Formation	# of perfs  ISIP 5,775.00  SCF N2	7,002.00  Frac Gradient 1.25  Acid-Gal	540 DOM: 40 TO 2700000	5 Min: 5341 10 Min: 5075 15 Min: 4874 SIP Detail 5 Min: 5057
Date 2/10/2013  Avg Rate 90.40  Sand Proppant 201,758.00  Stage 16  Date	From / To 9395 - 9517  Max Press PSI 8,731.00  Water-bbl 5,106.00  Formation MARCELLUS  From / To	# of perfs  ISIP 5,775.00  SCF N2  Frac Type Slickwater	7,002.00  Frac Gradient 1.25  Acid-Gal 750.00  BD Press	<b>ATP Psi</b> 8,456.00	5 Min: 5341 10 Min: 5075 15 Min: 4874 SIP Detail 5 Min: 5057 10 Min: 4700 15 Min: 4540
Date 2/10/2013  Avg Rate 90.40  Sand Proppant 201,758.00  Stage 16  Date 2/11/2013  Avg Rate	From / To 9395 - 9517  Max Press PSI 8,731.00  Water-bbl 5,106.00  Formation MARCELLUS  From / To 9245 - 9367  Max Press PSI	# of perfs  ISIP 5,775.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP	7,002.00  Frac Gradient 1.25  Acid-Gal 750.00  BD Press 7,051.00  Frac Gradient	<b>ATP Psi</b> 8,456.00	5 Min: 5341 10 Min: 5075 15 Min: 4874 SIP Detail 5 Min: 5057 10 Min: 4700

Stage 17	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/11/2013	<b>From / To</b> 9095 - 9217	# of perfs	<b>BD Press</b> 6,809.00	8,505.00	<b>SIP Detail</b> 5 Min: 5469 10 Min: 5199
<b>Avg Rate</b> 95.90	<b>Max Press PSI</b> 8,869.00	<b>ISIP</b> 5,922.00	Frac Gradient 1.27		15 Min: 5014
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
198,410.00	5,342.00		750.00		
Stage 18	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/11/2013	<b>From / To</b> 8945 - 9067	# of perfs	<b>BD Press</b> 6,625.00	8,461.00	<b>SIP Detail</b> 5 Min: 5460 10 Min: 5200
<b>Avg Rate</b> 93.90	<b>Max Press PSI</b> 8,740.00	<b>ISIP</b> 5,606.00	Frac Gradient 1.23		15 Min: 4969
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
200,506.00	5,235.00		750.00		
Stage 19	Formation MARCELLUS	Frac Type Slickwater			
_			<b>BD Press</b> 6,799.00	8,491.00	SIP Detail 5 Min: 5021
19 <b>Date</b>	MARCELLUS From / To	Slickwater		8,491.00	
Date 2/11/2013  Avg Rate 98.80  Sand	From / To 8795 - 8917 Max Press PSI	Slickwater # of perfs ISIP	6,799.00 Frac Gradient	8,491.00	5 Min: 5021 10 Min: 4728
Date 2/11/2013  Avg Rate 98.80	From / To 8795 - 8917 Max Press PSI 8,788.00	Slickwater # of perfs ISIP 5,513.00	6,799.00 Frac Gradient 1.22	8,491.00	5 Min: 5021 10 Min: 4728
Date 2/11/2013  Avg Rate 98.80  Sand Proppant	From / To 8795 - 8917 Max Press PSI 8,788.00 Water-bbl	Slickwater # of perfs ISIP 5,513.00	6,799.00  Frac Gradient 1.22  Acid-Gal	8,491.00	5 Min: 5021 10 Min: 4728
Date 2/11/2013  Avg Rate 98.80  Sand Proppant 203,779.00  Stage	From / To 8795 - 8917 Max Press PSI 8,788.00 Water-bbl 5,213.00	# of perfs  # SIP 5,513.00  SCF N2	6,799.00  Frac Gradient 1.22  Acid-Gal	8,491.00 \$	5 Min: 5021 10 Min: 4728 15 Min: 4527 SIP Detail 5 Min: 5530
Date 2/11/2013  Avg Rate 98.80  Sand Proppant 203,779.00  Stage 20  Date 2/12/2013  Avg Rate	From / To 8795 - 8917  Max Press PSI 8,788.00  Water-bbl 5,213.00  Formation MARCELLUS  From / To 8645 - 8767  Max Press PSI	# of perfs  ISIP 5,513.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP	6,799.00  Frac Gradient 1.22  Acid-Gal 750.00  BD Press 6,760.00  Frac Gradient	8,491.00 \$	5 Min: 5021 10 Min: 4728 15 Min: 4527
Date 2/11/2013  Avg Rate 98.80  Sand Proppant 203,779.00  Stage 20  Date 2/12/2013  Avg Rate 99.30	From / To 8795 - 8917  Max Press PSI 8,788.00  Water-bbl  5,213.00  Formation MARCELLUS  From / To 8645 - 8767  Max Press PSI 8,747.00	# of perfs  ISIP 5,513.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP 5,868.00	6,799.00  Frac Gradient 1.22  Acid-Gal  750.00  BD Press 6,760.00  Frac Gradient 1.27	8,491.00 \$	5 Min: 5021 10 Min: 4728 15 Min: 4527 SIP Detail 5 Min: 5530 10 Min: 5289
Date 2/11/2013  Avg Rate 98.80  Sand Proppant 203,779.00  Stage 20  Date 2/12/2013  Avg Rate	From / To 8795 - 8917  Max Press PSI 8,788.00  Water-bbl 5,213.00  Formation MARCELLUS  From / To 8645 - 8767  Max Press PSI	# of perfs  ISIP 5,513.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP	6,799.00  Frac Gradient 1.22  Acid-Gal 750.00  BD Press 6,760.00  Frac Gradient	ATP Psi 8,478.00	5 Min: 5021 10 Min: 4728 15 Min: 4527 SIP Detail 5 Min: 5530 10 Min: 5289 15 Min: 5116

Stage 21	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/12/2013	<b>From / To</b> 8495 - 8617	# of perfs	<b>BD Press</b> 6,458.00	<b>ATP Psi</b> 8,305.00	SIP Detail 5 Min: 5521 10 Min: 5290
Avg Rate 100.00	Max Press PSI 8,561.00	ISIP 6,035.00	Frac Gradient 1.29		15 Min: 5077
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
190,890.00	5,163.00		750.00		
Stage 22	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/12/2013	<b>From / To</b> 8345 - 8467	# of perfs	<b>BD Press</b> 6,281.00	<b>ATP Psi</b> 8,554.00	SIP Detail 5 Min: 5256 10 Min: 4940
Avg Rate 84.60	Max Press PSI 9,406.00	<b>ISIP</b> 6,048.00	Frac Gradient 1.29		15 Min: 4733
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
199,557.00	7,718.00		1,250.00		
Stage 23	Formation MARCELLUS	Frac Type Slickwater			
			BD Press 6,146.00	<b>ATP Psi</b> 8,340.00	SIP Detail 5 Min: 5587
23 Date	MARCELLUS From / To	Slickwater		***************************************	
Date 2/12/2013  Avg Rate 97.80  Sand	From / To 8195 - 8317 Max Press PSI	Slickwater # of perfs ISIP	6,146.00	***************************************	5 Min: 5587 10 Min: 5309
Date 2/12/2013  Avg Rate 97.80	From / To 8195 - 8317 Max Press PSI 8,527.00	# of perfs  ISIP 6,033.00	6,146.00 Frac Gradient 1.29	***************************************	5 Min: 5587 10 Min: 5309
Date 2/12/2013  Avg Rate 97.80  Sand Proppant	From / To 8195 - 8317 Max Press PSI 8,527.00 Water-bbl	# of perfs  ISIP 6,033.00	6,146.00  Frac Gradient 1.29  Acid-Gal	***************************************	5 Min: 5587 10 Min: 5309
Date 2/12/2013  Avg Rate 97.80  Sand Proppant 202,443.00  Stage	From / To 8195 - 8317  Max Press PSI 8,527.00  Water-bbl 5,194.00  Formation	# of perfs  ISIP 6,033.00  SCF N2	6,146.00  Frac Gradient 1.29  Acid-Gal	***************************************	5 Min: 5587 10 Min: 5309 15 Min: 5132 SIP Detail 5 Min: 5536
Date 2/12/2013  Avg Rate 97.80  Sand Proppant 202,443.00  Stage 24  Date 2/12/2013  Avg Rate	From / To 8195 - 8317  Max Press PSI 8,527.00  Water-bbl 5,194.00  Formation MARCELLUS  From / To 8045 - 8167  Max Press PSI	# of perfs  ISIP 6,033.00  SCF N2  Frac Type Slickwater # of perfs  ISIP	6,146.00  Frac Gradient 1.29  Acid-Gal  750.00  BD Press 6,648.00  Frac Gradient	8,340.00 ATP Psi	5 Min: 5587 10 Min: 5309 15 Min: 5132 SIP Detail
Date 2/12/2013  Avg Rate 97.80  Sand Proppant 202,443.00  Stage 24  Date 2/12/2013  Avg Rate 99.40	From / To 8195 - 8317  Max Press PSI 8,527.00  Water-bbl 5,194.00  Formation MARCELLUS  From / To 8045 - 8167  Max Press PSI 8,617.00	# of perfs  ISIP 6,033.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP 6,141.00	6,146.00  Frac Gradient 1.29  Acid-Gal 750.00  BD Press 6,648.00  Frac Gradient 1.31	8,340.00 ATP Psi	5 Min: 5587 10 Min: 5309 15 Min: 5132 SIP Detail 5 Min: 5536 10 Min: 5278
Date 2/12/2013  Avg Rate 97.80  Sand Proppant 202,443.00  Stage 24  Date 2/12/2013  Avg Rate	From / To 8195 - 8317  Max Press PSI 8,527.00  Water-bbl 5,194.00  Formation MARCELLUS  From / To 8045 - 8167  Max Press PSI	# of perfs  ISIP 6,033.00  SCF N2  Frac Type Slickwater # of perfs  ISIP	6,146.00  Frac Gradient 1.29  Acid-Gal 750.00  BD Press 6,648.00  Frac Gradient	8,340.00 ATP Psi 8,347.00	5 Min: 5587 10 Min: 5309 15 Min: 5132 SIP Detail 5 Min: 5536 10 Min: 5278 15 Min: 5069

<b>Stage</b> 25	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/13/2013	<b>From / To</b> 7895 - 8017	# of perfs	<b>BD Press</b> 6,494.00	<b>ATP Psi</b> 8,045.00	<b>SIP Detail</b> 5 Min: 5455 10 Min: 5162
<b>Avg Rate</b> 93.30	<b>Max Press PSI</b> 9,661.00	<b>ISIP</b> 5,913.00	Frac Gradient 1.27		15 Min: 4970
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
200,185.00	6,786.00		750.00		
Stage 26	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/13/2013	<b>From / To</b> 7745 - 7867	# of perfs	BD Press 6,800.00	<b>ATP Psi</b> 8,110.00	<b>SIP Detail</b> 5 Min: 5071 10 Min: 4750
<b>Avg Rate</b> 98.70	<b>Max Press PSI</b> 8,642.00	<b>ISIP</b> 5,847.00	Frac Gradient 1.27		15 Min: 4570
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
203,160.00	4,842.00		750.00		
Stage 27	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 2/13/2013	<b>From / To</b> 7595 - 7717	# of perfs	<b>BD Press</b> 7,799.00	<b>ATP Psi</b> 8,120.00	<b>SIP Detail</b> 5 Min: 5086 10 Min: 4649
<b>Avg Rate</b> 100.00	<b>Max Press PSI</b> 8,801.00	<b>ISIP</b> 6,214.00	Frac Gradient 1.32		15 Min: 4413
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
199,744.00	4,903.00		750.00		

#### Received

MAY 1 5 2013

#### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	2/28/2013	i
API#:	47-10302700	

Farm name: Sharon Scyoc	Operator Well No.: 513980
LOCATION: Elevation: 1,474	Quadrangle: Pine Grove
District: Grant	County: Wetzel, WV
Latitude: 39.565320 Feet South of	Deg. 39 Min. 35 Sec.
Longitude -80.626376 Feet West of We	

Company: EQT Production Company

Company: EQT Hoddenon Company	I Continue 0	T 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 - 2	T
Address: EQT Plaza, Suite 1700	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
625 Liberty Avenue, Pittsburgh, PA 15222	26	70	70	86.49
Agent: Cecil Ray	13 3/8	850.6	850.6	•
Inspector: Derek Haught	9 5/8	341.1	341.1	
Date Permit Issued: 10/21/2011	5 1/2	14,780	14,780	850
Date Well Work Commenced: 3/27/2012				
Date Well Work Completed: 6/27/2012				
Verbal Plugging: N/A				
Date Permission granted on:				
Rotary ✓ Cable Rig ✓				
Total Vertical Depth (ft): 7,506				
Total Measured Depth (ft): 14,788				
Fresh Water Depth (ft.): 340, 736				
Salt Water Depth (ft.): No show of salt water				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 409, 1111, 1151				
Void(s) encountered (N/Y) Depth(s) N				

	han two producing formations ple		ional data or	n separate sheet)	
	Pay zone d	epth (ft) 7,456	_		
	_MCF/d Oil: Initial open flow	Bbl/d			
Final open flow *see letter	_MCF/d Final open flow	Bbl/d		* ETENIA	
	en initial and final tests	Hours		CIVEL	
Static rock Pressure *see letter	_psig (surface pressure) after	Hours		* EPEIVER	٠,
				APR 08 7013	•
Second producing formation_	Pay zone dep	th (ft)		$\sigma_{\mathcal{S}_{n_1}}$	
Gas: Initial open flow	_MCF/d Oil: Initial open flow	Bbl/d	Elic	· · · · · · · · · · · · · · · · · · ·	
Final open flow	_MCF/d Final open flow	Bbl/d			
Time of open flow between	n initial and final tests	Hours		·	
Static rock Pressure	psig (surface pressure) after	Hours			
	- · · · · · · · · · · · · · · · · · · ·			>.4	1

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

2/28/2013

Date

Were core samples taken? YesNoX	Were cı	uttings caught during	g drilling? Yes_X	No
Were Electrical, Mechanical or Geophysical logs	s recorded on this well? If 1	yes, please listG	eophysical	<del></del>
NOTE: IN THE AREA BELOW PUT THE FRACTURING OR STIMULATING, PHYS DETAILED GEOLOGICAL RECORD OF COAL ENCOUNTERED BY THE WELLBOOF Perforated Intervals, Fracturing, or Stimulating:	ICAL CHANGE, ETC. 2 THE TOPS AND BOT	). THE WELL LO FTOMS OF ALL	G WHICH IS A SY FORMATIONS, 1	STEMATIC
See Attachment				
		···		
Plug Back Details Including Plug Type and Dept	h(a).			<del></del>
	n(s):			
N/A				
Formations Encountered: Surface:	Top Depth		Bottom D	<u>Pepth</u>
Sand & Shale / 0 / 246 / 246 Red Rock / :	246 / 250 / 4 Sand &	Shale / 250 / 409	/ 159 Coal / 40	9 / 415 / 6
Sand & Shale / 415 / 557 / 142 Red Rock / 5	57 / 565 / 8 Sand & Sh	ale / 565 / 765 / 20	0 Red Rock / 765	5 / 783 / 18 —
Sand & Shale / 783 / 1054 / 271 Red Rock /	1054 / 1062 / 8 Sand &	Shale / 1062 / 111	1 / 49 Coal / 111	1 / 1115 / 4
Sand & Shale / 1115 / 1151 / 36 Coal / 1151 / *	1170 / 19 Sand & Shale	/ 1170 / 1367 / 197	Red Rock / 1367	/ 1394 / 27
Sand & Shale / 1394 / 1454 / 60 Red Rock / 145	54 / 1465 / 11 Sand & Sha	ale / 1465 / 2306 / 84	41 - Maxton / 2306 /	2524 / 218
Big Lime / 2524 / 2650 / 126 Big Injun	/ 2650 / 2795 / 145	Weir / 2795 / 29	994 / 199	
Gantz / 2994 / 3114 / 120 50F / 3114 /				3324 / 82
4th / 3324 / 3450 / 126 Bayard / 3450 / 390				
Riley / 4898 / 5566 / 668 - Benson / 556				
Sonyea / 7034 / 7202 / 168 Middlesex	/ 7202 / 7242 / 40 0	Genessee / 7242	2 / 7326 / 84	
Geneseo / 7326 / 7351 / 25 Tully / 735	51 / 7376 / 25 Hamil	Iton / 7376 / 745	6 / 80 😹	TOP.
Marcellus Blk Shale / 7456 / 7506 / 50			· er	+ ENVET
			10.	· · · · · · · · · · · · · · · · · · ·
		<del></del>	$AP_{i}$	8 08 2013
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EQT WR- 35	Completion	Attachment	Well	Treatment	Summary
Stage 1	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/6/2012	From / To 14599 - 14721	# of perfs	<b>BD Press</b> 8,395.00	<b>ATP Psi</b> 8,658.00	SIP Detail 5 Min: 0 10 Min: 0
Avg Rate 58.00	Max Press PSI 9,267.00	<b>ISIP</b> 4,878.00	Frac Gradient 1.21		15 Min: 0
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
22,793.00	6,971.00		3,000.00		
Stage 2	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/6/2012	From / To 14428 - 14550	# of perfs	BD Press 6,221.00	<b>ATP Psi</b> 8,007.00	SIP Detail 5 Min: 3649
Avg Rate 93.10	Max Press PSI 8,638.00	<b>ISIP</b> 4,642.00	Frac Gradient 1.05		10 Min: 3412 15 Min: 3303
Sand	Water-bbl	SCF N2	Acid-Gal		
Proppant 204,380.00	5,756.00		750.00		
Stage 3	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/7/2012	From / To 14278 - 14400	# of perfs	<b>BD Press</b> 6,956.00	<b>ATP Psi</b> 8,073.00	SIP Detail 5 Min: 3901
Avg Rate 91.30	Max Press PSI 8,474.00	<b>ISIP</b> 4,996.00	Frac Gradient 1.1		10 Min: 3571 15 Min: 3309
Sand	Water-bbl	SCF N2	Acid-Gal		
Proppant 204,020.00	5,543.00		750.00		

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Stage 4	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/7/2012	From / To 14128 - 14250	# of perfs	<b>BD Press</b> 6,957.00	<b>ATP Psi</b> 8,206.00	SIP Detail 5 Min: 4779 10 Min: 4306
<b>Avg Rate</b> 98.80	<b>Max Press PSI</b> 8,484.00	<b>ISIP</b> 5,650.00	Frac Gradient 1.18		15 Min: 3992
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
200,590.00	5,448.00		750.00		
Stage 6	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/7/2012	From / To 13978 - 14100	# of perfs	<b>BD Press</b> 6,266.00	<b>ATP Psi</b> 8,330.00	<b>SIP Detail</b> 5 Min: 4110 10 Min: 3748
<b>Avg Rate</b> 98.30	<b>Max Press PSI</b> 8,821.00	<b>ISIP</b> 4,900.00	Frac Gradient 1.08		15 Min: 3573
Sand Proppant	Water-bbi	SCF N2	Acid-Gal		
202,560.00	4,823.00		750.00		
Stage 5	Formation MARCELLUS	Frac Type Slickwater			
_			<b>BD Press</b> 5,850.00	<b>ATP Psi</b> 8,537.00	<b>SIP Detail</b> 5 Min: 3652
5 <b>Date</b>	MARCELLUS From / To	Slickwater			
Date 9/7/2012 Avg Rate 96.00 Sand	From / To 13828 - 13950 Max Press PSI	Slickwater # of perfs ISIP	5,850.00  Frac Gradient		5 Min: 3652 10 Min: 3453
Date 9/7/2012 Avg Rate 96.00	From / To 13828 - 13950 Max Press PSI 8,821.00	# of perfs  ISIP 4,442.00	5,850.00 Frac Gradient 1.02		5 Min: 3652 10 Min: 3453
Date 9/7/2012  Avg Rate 96.00  Sand  Proppant	From / To 13828 - 13950 Max Press PSI 8,821.00 Water-bbl	# of perfs  ISIP 4,442.00	5,850.00  Frac Gradient 1.02  Acid-Gal		5 Min: 3652 10 Min: 3453
Date 9/7/2012 Avg Rate 96.00 Sand Proppant 202,560.00	From / To 13828 - 13950  Max Press PSI 8,821.00  Water-bbl 5,012.00  Formation	# of perfs  # of perfs  ISIP 4,442.00  SCF N2	5,850.00  Frac Gradient 1.02  Acid-Gal		5 Min: 3652 10 Min: 3453 15 Min: 3338 SIP Detail 5 Min: 3562
Date 9/7/2012  Avg Rate 96.00  Sand Proppant 202,560.00  Stage 7	From / To 13828 - 13950  Max Press PSI 8,821.00  Water-bbI 5,012.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 4,442.00  SCF N2  Frac Type Slickwater	5,850.00  Frac Gradient 1.02  Acid-Gal 750.00  BD Press	8,537.00	5 Min: 3652 10 Min: 3453 15 Min: 3338
Date 9/7/2012  Avg Rate 96.00  Sand Proppant 202,560.00  Stage 7  Date 9/7/2012  Avg Rate	From / To 13828 - 13950  Max Press PSI 8,821.00  Water-bbl 5,012.00  Formation MARCELLUS  From / To 13678 - 13800  Max Press PSI	# of perfs  ISIP 4,442.00  SCF N2  Frac Type Slickwater  # of perfs	5,850.00  Frac Gradient 1.02  Acid-Gal 750.00  BD Press 6,093.00  Frac Gradient	8,537.00	5 Min: 3652 10 Min: 3453 15 Min: 3338 SIP Detail 5 Min: 3562 10 Min: 3275

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	Stage 8	Formation MARCELLUS	Frac Type Slickwater			
	<b>Date</b> 9/7/2012	From / To 13528 - 13650	# of perfs	<b>BD Press</b> 6,541.00	<b>ATP Psi</b> 8,214.00	SIP Detail 5 Min: 3633
	Avg Rate 96.70	Max Press PSI 8,451.00	ISIP 4,362.00	Frac Gradient 1.01		10 Min: 3437 15 Min: 3343
	Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
	201,660.00	5,446.00		750.00		
	Stage 9	Formation MARCELLUS	Frac Type Slickwater			
	<b>Date</b> 9/8/2012	From / To 13378 - 13450	# of perfs	<b>BD Press</b> 6,590.00	<b>ATP Psi</b> 8,392.00	SIP Detail 5 Min: 3833
	Avg Rate 87.80	Max Press PSI 9,048.00	ISIP 4,970.00	Frac Gradient 1.09		10 Min: 3615 15 Min: 3493
	Sand	Water-bbl	SCF N2	Acid-Gal		
	Proppant 200,440.00	5,623.00		750.00		
	Stage 12	Formation MARCELLUS	Frac Type Slickwater			
	100 miles			<b>BD Press</b> 6,023.00	<b>ATP Psi</b> 8,186.00	SIP Detail 5 Min: 3710
	12 Date	MARCELLUS From / To	Slickwater			A Control of the cont
	Date 9/8/2012 Avg Rate 100.00 Sand	From / To 13228 - 13350 Max Press PSI	Slickwater # of perfs ISIP	6,023.00 Frac Gradient		5 Min: 3710 10 Min: 3476
	Date 9/8/2012 Avg Rate 100.00	From / To 13228 - 13350 Max Press PSI 8,497.00	# of perfs  ISIP 4,545.00	6,023.00 Frac Gradient 1.04		5 Min: 3710 10 Min: 3476
•	Date 9/8/2012  Avg Rate 100.00  Sand Proppant	From / To 13228 - 13350 Max Press PSI 8,497.00 Water-bbl	# of perfs  ISIP 4,545.00	6,023.00  Frac Gradient 1.04  Acid-Gal		5 Min: 3710 10 Min: 3476
	Date 9/8/2012  Avg Rate 100.00  Sand Proppant 207,730.00  Stage	From / To 13228 - 13350 Max Press PSI 8,497.00 Water-bbl 5,049.00	# of perfs  ISIP 4,545.00  SCF N2	6,023.00  Frac Gradient 1.04  Acid-Gal		5 Min: 3710 10 Min: 3476 15 Min: 3379 SIP Detail 5 Min: 5174
	Date 9/8/2012 Avg Rate 100.00 Sand Proppant 207,730.00 Stage 11	From / To 13228 - 13350  Max Press PSI 8,497.00  Water-bbl 5,049.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 4,545.00  SCF N2  Frac Type Slickwater	6,023.00  Frac Gradient 1.04  Acid-Gal 750.00  BD Press	8,186.00	5 Min: 3710 10 Min: 3476 15 Min: 3379
	Date 9/8/2012  Avg Rate 100.00  Sand Proppant 207,730.00  Stage 11  Date 9/8/2012  Avg Rate 98.00  Sand	From / To 13228 - 13350  Max Press PSI 8,497.00  Water-bbl 5,049.00  Formation MARCELLUS  From / To 13078 - 13200  Max Press PSI	# of perfs  ISIP 4,545.00  SCF N2  Frac Type Slickwater # of perfs  ISIP	6,023.00  Frac Gradient 1.04  Acid-Gal 750.00  BD Press 6,363.00  Frac Gradient	8,186.00 ATP Psi 8,162.00	5 Min: 3710 10 Min: 3476 15 Min: 3379 SIP Detail 5 Min: 5174 40 Min: 3745 15 Min: 3643
	Date 9/8/2012  Avg Rate 100.00  Sand Proppant 207,730.00  Stage 11  Date 9/8/2012  Avg Rate 98.00	From / To 13228 - 13350  Max Press PSI 8,497.00  Water-bbl 5,049.00  Formation MARCELLUS  From / To 13078 - 13200  Max Press PSI 10,062.00	# of perfs  ISIP 4,545.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP 5,918.00	6,023.00  Frac Gradient 1.04  Acid-Gal 750.00  BD Press 6,363.00  Frac Gradient 0	8,186.00 ATP Psi 8,162.00	5 Min: 3710 10 Min: 3476 15 Min: 3379 SIP Detail 5 Min: 5174 40 Min: 3745

<b>Stage</b> 10	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/9/2012	From / To 12928 - 13050	# of perfs	<b>BD Press</b> 5,745.00	<b>ATP Psi</b> 8,013.00	SIP Detail 5 Min: 4188
<b>Avg Rate</b> 99.90	<b>Max Press PSI</b> 8,904.00	<b>ISIP</b> 4,968.00	Frac Gradient 1.09		10 Min: 3797 15 Min: 3587
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
207,730.00	5,002.00		750.00		
Stage 13	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/9/2012	From / To 12778 - 12900	# of perfs	<b>BD Press</b> 5,959.00		SIP Detail 5 Min: 3973
Avg Rate 100.90	<b>Max Press PSI</b> 8,660.00	<b>ISIP</b> 5,022.00	Frac Gradient 1.09		10 Min: 3696 15 Min: 3547
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
209,742.00	5,607.00		750.00		
Stage 14	Formation MARCELLUS	Frac Type Slickwater			
_			<b>BD Press</b> 6,233.00		SIP Detail 5 Min: 4051
14 Date	MARCELLUS From / To	Slickwater			
Date 9/10/2012  Avg Rate 97.10  Sand	From / To 12628 - 12750 Max Press PSI	Slickwater # of perfs ISIP	6,233.00 Frac Gradient		5 Min: 4051 10 Min: 3810
Date 9/10/2012 Avg Rate 97.10	From / To 12628 - 12750 Max Press PSI 8,904.00	# of perfs    ISIP   5,041.00	6,233.00 Frac Gradient 1.1		5 Min: 4051 10 Min: 3810
Date 9/10/2012  Avg Rate 97.10  Sand Proppant	From / To 12628 - 12750 Max Press PSI 8,904.00 Water-bbl	# of perfs    ISIP   5,041.00	6,233.00  Frac Gradient 1.1  Acid-Gal		5 Min: 4051 10 Min: 3810
Date 9/10/2012  Avg Rate 97.10  Sand Proppant 206,449.00  Stage	From / To 12628 - 12750  Max Press PSI 8,904.00  Water-bbl 5,570.00  Formation	# of perfs  # SIP 5,041.00  SCF N2	6,233.00  Frac Gradient 1.1  Acid-Gal	8,213.00 ATP Psi 8,130.00	5 Min: 4051 10 Min: 3810 15 Min: 3665 SIP Details 5 Min: 4229
Date 9/10/2012  Avg Rate 97.10  Sand Proppant 206,449.00  Stage 15  Date	From / To 12628 - 12750  Max Press PSI 8,904.00  Water-bbl 5,570.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 5,041.00  SCF N2  Frac Type Slickwater	6,233.00  Frac Gradient 1.1  Acid-Gal  750.00  BD Press	<b>ATP Psi</b> 8,130.00	5 Min: 4051 10 Min: 3810 15 Min: 3665
Date 9/10/2012  Avg Rate 97.10  Sand Proppant 206,449.00  Stage 15  Date 9/10/2012  Avg Rate	From / To 12628 - 12750  Max Press PSI 8,904.00  Water-bbI 5,570.00  Formation MARCELLUS  From / To 12478 - 12600  Max Press PSI	# of perfs  ISIP 5,041.00  SCF N2  Frac Type Slickwater # of perfs	6,233.00  Frac Gradient 1.1  Acid-Gal  750.00  BD Press 5,862.00  Frac Gradient	ATP Psi 8,130.00	5 Min: 4051 10 Min: 3810 15 Min: 3665 5 Min: 4229 10 Min: 3983

Date   From / To   12328 - 12450   Sip   Press   6,030.00   8,047.00   5 Min: 39565   15 Min	<b>Stage</b> 16	Formation MARCELLUS	<b>Frac Type</b> Slickwater			
Sand   Water-bb    SCF N2   Acid-Gal   T,916.00   T,9			# of perfs			5 Min: 3965
Proppant	_					
Stage		Water-bbl	SCF N2	Acid-Gal		
Date	• •	5,328.00		750.00		
9/11/2012 12178 - 12300 6,082.00 7,916.00 5 Min: 4095 10 Min: 3793 15 Min: 3621  8 Acid-Gal Proppant 202,152.00 4,986.00 750.00  Stage Formation 18 MARCELLUS Slickwater  Date From / To # of perfs BD Press 6,452.00 8,055.00 5 Min: 4391 10 Min: 4002 15 Min: 3796 10 Min: 3796 10 Min: 4002 15 Min: 3796 15 Min: 3796 15 Min: 3796 15 Min: 3796 17 Min: 3796 17 Min: 4771 1878 - 12000 6,328.00 7,951.00  Avg Rate Max Press PSI BD Press 6,328.00 7,951.00  Avg Rate Max Press PSI ISIP Frac Gradient 9/12/2012 11878 - 12000 6,328.00 7,951.00  Avg Rate Max Press PSI ISIP Frac Gradient 10 Min: 4095 10 Min: 4097 10 Min: 4072 15 Min: 3841	_				<u>-</u>	
Sand   Water-bbl   SCF N2   Acid-Gal   Proppant   202,152.00   4,986.00   750.00			# of perfs			5 Min: 4095
Proppant   202,152.00	_					
Stage   Formation   Frac Type   Slickwater		Water-bbl	SCF N2	Acid-Gal		
Date	• •	4,986.00		750.00		
9/12/2012 12028 - 12150 6,452.00 8,055.00 5 Min: 4391  Avg Rate Max Press PSI SIP Frac Gradient 96.10 8,571.00 5,811.00 1.21  Sand Water-bbl SCF N2 Acid-Gal Proppant 203,509.00 5,196.00 750.00  Stage Formation Frac Type Slickwater  Date From / To 9/12/2012 11878 - 12000 6,328.00 7,951:00 7,951:00 Avg Rate Max Press PSI ISIP Frac Gradient 15 Min: 4072 15 Min: 4072 15 Min: 4072 15 Min: 4072 15 Min: 3841						
Sand   Water-bbl   SCF N2   Acid-Gal			# of perfs			5 Min: 4391
Proppant           203,509.00         5,196.00         750.00           Stage Formation 19 MARCELLUS Slickwater           Date 9/12/2012         From / To 1878 - 12000         # of perfs BD Press 6,328.00         ATP Psi 7,951.00         SIP Detail 7,951.00         Adjn: 4471         Avg Rate Max Press PSI         ISIP Frac Gradient         ISIP Frac Gradient         To Min: 3841	_					
203,509.00 5,196.00 750.00  Stage Formation Frac Type 19 MARCELLUS Slickwater  Date From / To # of perfs BD Press ATP Psi SIP Detail 9/12/2012 11878 - 12000 6,328.00 7,951.00 5 Min; 4471  Avg Rate Max Press PSI ISIP Frac Gradient 15 Min; 3841		Water-bbl	SCF N2	Acid-Gal		
Date         From / To         # of perfs         BD Press         ATP Psi         SIP Detail           9/12/2012         11878 - 12000         6,328.00         7,951:00         6,471           Avg Rate         Max Press PSI         ISIP Frac Gradient         15 Min: 3841		5,196.00		750.00		
9/12/2012 11878 - 12000 6,328.00 7,951.00 5 Min: 4471  Avg Rate Max Press PSI ISIP Frac Gradient 15 Min: 3841						
Avg Rate Max Press PSI ISIP Frac Gradient 15 Min: 3841			# of perfs		7,951 <b>:</b> Q0	<b>5 Min</b> ; 4471
	<b>Avg Rate</b> 99.80	<b>Max Press PSI</b> 8,607.00	<b>ISIP</b> 5,400.00	Frac Gradient 1.15	77.	15 Min: 3841
Sand Water-bbl SCF N2 Acid-Gal		Water-bbl	SCF N2	Acid-Gal		2013
Proppant 200,815.00 5,364.00 750.00 750.00		5,364.00		750.00 E	Pario	in ;

Stage 20	Formation MARCELLUS	<b>Frac Type</b> Slickwater			
<b>Date</b> 9/12/2012	From / To 11728 - 11850	# of perfs	<b>BD Press</b> 6,723.00	<b>ATP Psi</b> 8,023.00	<b>SIP Detail</b> 5 Min: 4167 10 Min: 3787
<b>Avg Rate</b> 99.88	<b>Max Press PSI</b> 8,368.00	<b>ISIP</b> 5,374.00	Frac Gradient 1.15		15 Min: 3576
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
202,990.00	5,307.00		750.00		
Stage 21	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/12/2012	From / To 11578 - 11700	# of perfs	<b>BD Press</b> 6,582.00	<b>ATP Psi</b> 8,076.00	SIP Detail 5 Min: 3639
Avg Rate 99.00	<b>Max Press PSI</b> 8,807.00	<b>ISIP</b> 4,204.00	Frac Gradient 0.99		10 Min: 3449 15 Min: 3353
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
201,053.00	5,163.00		750.00		
Stage 22	Formation MARCELLUS	Frac Type Slickwater			
_			<b>BD Press</b> 6,685.00	<b>ATP Psi</b> 8,015.00	SIP Detail 5 Min: 3810
22 Date	MARCELLUS From / To	Slickwater			
Date 9/13/2012  Avg Rate 98.50  Sand	From / To 11428 - 11550 Max Press PSI	Slickwater # of perfs	6,685.00  Frac Gradient		5 Min: 3810 10 Min: 3562
Date 9/13/2012 Avg Rate 98.50	From / To 11428 - 11550  Max Press PSI 8,319.00	# of perfs  # SIP 4,588.00	6,685.00 Frac Gradient 1.04		5 Min: 3810 10 Min: 3562
Date 9/13/2012  Avg Rate 98.50  Sand Proppant	From / To 11428 - 11550  Max Press PSI 8,319.00  Water-bbl	# of perfs  # SIP 4,588.00	6,685.00  Frac Gradient 1.04  Acid-Gal		5 Min: 3810 10 Min: 3562
Date 9/13/2012  Avg Rate 98.50  Sand Proppant 204,743.00  Stage	From / To 11428 - 11550  Max Press PSI 8,319.00  Water-bbl 5,081.00  Formation	# of perfs  # of perfs  ISIP 4,588.00  SCF N2	6,685.00  Frac Gradient 1.04  Acid-Gal		5 Min: 3810 10 Min: 3562 15 Min: 3431 SIP Detail 5 Min: 4132
Date 9/13/2012  Avg Rate 98.50  Sand Proppant 204,743.00  Stage 23  Date	From / To 11428 - 11550  Max Press PSI 8,319.00  Water-bbl 5,081.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 4,588.00  SCF N2  Frac Type Slickwater	6,685.00  Frac Gradient 1.04  Acid-Gal 750.00  BD Press 6,055.00  Frac Gradient 1.14	<b>ATP</b> - <b>P</b> si 8,055.00	5 Min: 3810 10 Min: 3562 15 Min: 3431 SIP Detail 5 Min: 3720 10 Min: 3720 15 Min: 3509
Date 9/13/2012  Avg Rate 98.50  Sand Proppant 204,743.00  Stage 23  Date 9/13/2012  Avg Rate	From / To 11428 - 11550  Max Press PSI 8,319.00  Water-bbi 5,081.00  Formation MARCELLUS  From / To 11278 - 11400  Max Press PSI	# of perfs  ISIP 4,588.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP	6,685.00  Frac Gradient 1.04  Acid-Gal 750.00  BD Press 6,055.00  Frac Gradient	<b>ATP</b> - <b>P</b> si 8,055.00	5 Min: 3810 10 Min: 3562 15 Min: 3431 SIP Detail 5 Min: 4132

Stage 24	Formation MARCELLUS	<b>Frac Type</b> Slickwater			
<b>Date</b> 9/13/2012	From / To 11128 - 11250	# of perfs	<b>BD Press</b> 5,766.00	<b>ATP Psi</b> 7,710.00	SIP Detail 5 Min: 3571
<b>Avg Rate</b> 99.20	<b>Max Press PSI</b> 7,958.00	<b>ISIP</b> 4,367.00	Frac Gradient 1.01		10 Min: 3395 15 Min: 3315
Sand	Water-bbl	SCF N2	Acid-Gal		
<b>Proppant</b> 203,110.00	5,151.00		750.00		
Stage 25	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/14/2012	From / To 10978 - 11100	# of perfs	<b>BD Press</b> 6,423.00	<b>ATP Psi</b> 8,317.00	SIP Detail 5 Min: 3613
Avg Rate 97.00	<b>Max Press PSI</b> 8,647.00	<b>ISIP</b> 4,286.00	Frac Gradient		10 Min: 3458 15 Min: 3382
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
202,556.00	4,938.00		750.00		
Stage 26	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/14/2012	From / To 10828 - 10950	# of perfs	<b>BD Press</b> 7,042.00	<b>ATP Psi</b> 8,162.00	SIP Detail 5 Min: 3672
		# of perfs ISIP 4,539.00			
9/14/2012  Avg Rate 94.00  Sand	10828 - 10950  Max Press PSi	ISIP	7,042.00 Frac Gradient		5 Min: 3672 10 Min: 3515
9/14/2012 <b>Avg Rate</b> 94.00	10828 - 10950 <b>Max Press PSI</b> 8,598.00	ISIP 4,539.00	7,042.00 Frac Gradient 1.04		5 Min: 3672 10 Min: 3515
9/14/2012  Avg Rate 94.00  Sand  Proppant	10828 - 10950  Max Press PSI 8,598.00  Water-bbl	ISIP 4,539.00	7,042.00  Frac Gradient 1.04  Acid-Gal		5 Min: 3672 10 Min: 3515 15 Min: 3428
9/14/2012  Avg Rate 94.00  Sand Proppant 202,461.00  Stage	10828 - 10950  Max Press PSi 8,598.00  Water-bbl 5,076.00  Formation	ISIP 4,539.00 SCF N2 Frac Type	7,042.00  Frac Gradient 1.04  Acid-Gal	8,162.00 ATP Psi/ 8,344.00	5 Min: 3672 10 Min: 3515 15 Min: 3428 SIP Detail 5 Min: 9006
9/14/2012  Avg Rate 94.00  Sand Proppant 202,461.00  Stage 27  Date	10828 - 10950  Max Press PSi 8,598.00  Water-bbl 5,076.00  Formation MARCELLUS  From / To	ISIP 4,539.00 SCF N2 Frac Type Slickwater	7,042.00  Frac Gradient 1.04  Acid-Gal 750.00  BD Press	8,162.00 ATP P <b>s</b> i/	5 Min: 3672 10 Min: 3515 15 Min: 3428 SIP Detail 5 Min: 3650 35 Min: 3478
9/14/2012  Avg Rate 94.00  Sand Proppant 202,461.00  Stage 27  Date 9/14/2012  Avg Rate	10828 - 10950  Max Press PSI 8,598.00  Water-bbl 5,076.00  Formation MARCELLUS  From / To 10678 - 10800  Max Press PSI	ISIP 4,539.00 SCF N2 Frac Type Slickwater # of perfs	7,042.00  Frac Gradient 1.04  Acid-Gal 750.00  BD Press 6,241.00  Frac Gradient	8,162.00  ATP P\$ 8,344.00	5 Min: 3672 10 Min: 3515 15 Min: 3428 SIP Detail 5 Min: 3650

<b>Stage</b> 28	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/14/2012	From / To 10528 - 10650	# of perfs	<b>BD Press</b> 6,001.00	<b>ATP Psi</b> 7,666.00	<b>SIP Detail</b> 5 Min: 3460 10 Min: 3339
<b>Avg Rate</b> 99.40	<b>Max Press PSI</b> 9,215.00	<b>ISIP</b> 4,165.00	Frac Gradient 0.99		15 Min: 3277
Sand Proppant	Water-bbi	SCF N2	Acid-Gal		
203,448.00	5,196.00		750.00		
<b>Stage</b> 29	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/14/2012	From / To 10378 - 10500	# of perfs	<b>BD Press</b> 6,758.00	<b>ATP Psi</b> 7,918.00	<b>SIP Detail</b> 5 Min: 4039 10 Min: 3625
<b>Avg Rate</b> 100.90	<b>Max Press PSI</b> 8,315.00	<b>ISIP</b> 5,204.00	Frac Gradient 1.13		15 Min: 3436
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
201,599.00	4,962.00		750.00		
Stage 30	Formation MARCELLUS	Frac Type Slickwater			
_			<b>BD Press</b> 6,013.00	<b>ATP Psi</b> 8,114.00	SIP Detail 5 Min: 3820
30 Date	MARCELLUS From / To	Slickwater			
Date 9/14/2012 Avg Rate 99.40	From / To 10228 - 10350 Max Press PSI	Slickwater # of perfs ISIP	6,013.00 Frac Gradient		5 Min: 3820 10 Min: 3599
Date 9/14/2012 Avg Rate 99.40	From / To 10228 - 10350 Max Press PSI 8,552.00	# of perfs  # SIP 4,703.00	6,013.00 Frac Gradient 1.06		5 Min: 3820 10 Min: 3599
Date 9/14/2012 Avg Rate 99.40 Sand Proppant	From / To 10228 - 10350 Max Press PSI 8,552.00 Water-bbl	# of perfs  # SIP 4,703.00	6,013.00  Frac Gradient 1.06  Acid-Gal		5 Min: 3820 10 Min: 3599
Date 9/14/2012 Avg Rate 99.40 Sand Proppant 202,187.00	From / To 10228 - 10350  Max Press PSI 8,552.00  Water-bbl 4,846.00  Formation	# of perfs  # of perfs  ISIP 4,703.00  SCF N2	6,013.00  Frac Gradient 1.06  Acid-Gal		5 Min: 3820 10 Min: 3599 15 Min: 3474 SIP(Detail 5 Min: 3642
Date 9/14/2012 Avg Rate 99.40 Sand Proppant 202,187.00 Stage 31	From / To 10228 - 10350  Max Press PSI 8,552.00  Water-bbl 4,846.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 4,703.00  SCF N2  Frac Type Slickwater	6,013.00  Frac Gradient 1.06  Acid-Gal 750.00  BD Press	8,114.00 ATP Psi 8,015.00	5 Min: 3820 10 Min: 3599 15 Min: 3474 SIP Detail 5 Min: 3632 10 Min: 3436
Date 9/14/2012  Avg Rate 99.40  Sand Proppant 202,187.00  Stage 31  Date 9/15/2012  Avg Rate	From / To 10228 - 10350  Max Press PSI 8,552.00  Water-bbl 4,846.00  Formation MARCELLUS  From / To 10078 - 10200  Max Press PSI	# of perfs  ISIP 4,703.00  SCF N2  Frac Type Slickwater # of perfs	6,013.00  Frac Gradient 1.06  Acid-Gal 750.00  BD Press 6,952.00  Frac Gradient	8,114.00	5 Min: 3820 10 Min: 3599 15 Min: 3474 SIP Detail 5 Min: 36427 10 Min: 3436

Stage 32	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/15/2012	From / To 9928 - 10050	# of perfs	<b>BD Press</b> 6,483.00	<b>ATP Psi</b> 7,970.00	<b>SIP Detail</b> 5 Min: 3739 10 Min: 3558
<b>Avg Rate</b> 99.90	<b>Max Press PSI</b> 8,942.00	<b>ISIP</b> 4,256.00	Frac Gradient 1		15 Min: 3462
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
201,894.00	5,312.00		750.00		
Stage 33	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/15/2012	<b>From / To</b> 9778 - 9900	# of perfs	<b>BD Press</b> 7,022.00	<b>ATP Psi</b> 7,796.00	<b>SIP Detail</b> 5 Min: 3916 10 Min: 3659
Avg Rate 100.20	<b>Max Press PSI</b> 8,144.00	<b>ISIP</b> 4,845.00	Frac Gradient 1.08		15 Min: 3521
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
202,811.00	5,112.00		750.00		
<b>Stage</b> 34	Formation MARCELLUS	Frac Type Slickwater	-		
_			<b>BD Press</b> 6,897.00	<b>ATP Psi</b> 7,645.00	SIP Detail 5 Min: 3721
34 Date	MARCELLUS From / To	Slickwater			
Date 9/15/2012 Avg Rate 100.40 Sand	From / To 9628 - 9750 Max Press PSI	Slickwater # of perfs ISIP	6,897.00		5 Min: 3721 10 Min: 3517 15 Min: 3432
Date 9/15/2012 Avg Rate 100.40	From / To 9628 - 9750 Max Press PSI 8,008.00	# of perfs  ISIP 4,604.00	6,897.00 Frac Gradient 1.05		5 Min: 3721 10 Min: 3517 15 Min: 3432
Date 9/15/2012  Avg Rate 100.40  Sand Proppant	From / To 9628 - 9750 Max Press PSI 8,008.00 Water-bbl	# of perfs  ISIP 4,604.00	6,897.00  Frac Gradient 1.05  Acid-Gal		5 Min: 3721 10 Min: 3517 15 Min: 3432
Date 9/15/2012  Avg Rate 100.40  Sand Proppant 202,328.00  Stage	From / To 9628 - 9750 Max Press PSI 8,008.00 Water-bbl 4,831.00	# of perfs  # of perfs  ISIP 4,604.00  SCF N2	6,897.00  Frac Gradient 1.05  Acid-Gal		5 Min: 3721 10 Min: 3517 15 Min: 3432 APR 0 8 SIP Detail 5 Min: 3728
Date 9/15/2012 Avg Rate 100.40 Sand Proppant 202,328.00 Stage 35	From / To 9628 - 9750  Max Press PSI 8,008.00  Water-bbl 4,831.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 4,604.00  SCF N2  Frac Type Slickwater	6,897.00  Frac Gradient 1.05  Acid-Gal 750.00  BD Press	7,645.00	5 Min: 3721 10 Min: 3517 15 Min: 3432
Date 9/15/2012  Avg Rate 100.40  Sand Proppant 202,328.00  Stage 35  Date 9/15/2012  Avg Rate	From / To 9628 - 9750  Max Press PSI 8,008.00  Water-bbl 4,831.00  Formation MARCELLUS  From / To 9478 - 9600  Max Press PSI	# of perfs  ISIP 4,604.00  SCF N2  Frac Type Slickwater # of perfs	6,897.00  Frac Gradient 1.05  Acid-Gal 750.00  BD Press 6,816.00  Frac Gradient	7,645.00	5 Min: 3721 10 Min: 3517 15 Min: 3432 APR 0 8 SIP Detail 5 Min: 3728

Stage 36	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/16/2012	From / To 9328 - 9450	# of perfs	<b>BD Press</b> 7,985.00	<b>ATP Psi</b> 7,907.00	SIP Detail 5 Min: 3758
Avg Rate 100.10	Max Press PSI 8,456.00	<b>ISIP</b> 4,625.00	Frac Gradient 1.05		10 Min: 3545 15 Min: 3448
Sand	Water-bbl	SCF N2	Acid-Gal	1	
<b>Proppant</b> 199,638.00	4,773.00		750.00		
Stage 37	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/16/2012	From / To 9178 - 9300	# of perfs	<b>BD Press</b> 6,364.00	<b>ATP Psi</b> 7,953.00	SIP Detail 5 Min: 3710 10 Min: 3534
Avg Rate 100.80	Max Press PSI 8,604.00	<b>ISIP</b> 4,488.00	Frac Gradient 1.03		15 Min: 3429
Sand	Water-bbl	SCF N2	Acid-Gal		
Proppant 202,999.00	4,866.00		750.00		
Stage 38	Formation MARCELLUS	Frac Type Slickwater			
			BD Press 7,477.00	<b>ATP Psi</b> 7,815.00	SIP Detail 5 Min: 3781
38 Date	MARCELLUS From / To	Slickwater			Control of the contro
Date 9/16/2012 Avg Rate 100.60 Sand	From / To 9028 - 9150 Max Press PSI	Slickwater # of perfs ISIP	7,477.00 Frac Gradient		5 Min: 3781 10 Min: 3569
Date 9/16/2012 Avg Rate 100.60	From / To 9028 - 9150 Max Press PSI 8,120.00	# of perfs  ISIP 4,777.00	7,477.00 Frac Gradient 1.07		5 Min: 3781 10 Min: 3569
Date 9/16/2012  Avg Rate 100.60  Sand Proppant	From / To 9028 - 9150 Max Press PSI 8,120.00 Water-bbl	# of perfs  ISIP 4,777.00	7,477.00  Frac Gradient 1.07  Acid-Gal		5 Min: 3781 10 Min: 3569
Date 9/16/2012  Avg Rate 100.60  Sand Proppant 198,738.00  Stage	From / To 9028 - 9150 Max Press PSI 8,120.00 Water-bbl 5,000.00	# of perfs  ISIP 4,777.00  SCF N2	7,477.00  Frac Gradient 1.07  Acid-Gal		5 Min: 3781 10 Min: 3569 15 Min: 3454 SIP Detail 5 Min: 3778
Date 9/16/2012  Avg Rate 100.60  Sand Proppant 198,738.00  Stage 39  Date	From / To 9028 - 9150  Max Press PSI 8,120.00  Water-bbI 5,000.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 4,777.00  SCF N2  Frac Type Slickwater	7,477.00  Frac Gradient 1.07  Acid-Gal 750.00  BD Press	7,815.00 ATP Psi 7,964.00	5 Min: 3781 10 Min: 3569 15 Min: 3454
Date 9/16/2012  Avg Rate 100.60  Sand Proppant 198,738.00  Stage 39  Date 9/16/2012  Avg Rate	From / To 9028 - 9150  Max Press PSI 8,120.00  Water-bbl 5,000.00  Formation MARCELLUS  From / To 8878 - 9000  Max Press PSI	# of perfs  ISIP 4,777.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP	7,477.00  Frac Gradient 1.07  Acid-Gal 750.00  BD Press 7,882.00  Frac Gradient	7,815.00	5 Min: 3781 10 Min: 3569 15 Min: 3454 SIP Detail 5 Min: 3778 10 Min: 3531

<b>Stage</b> 40	Formation MARCELLUS	<b>Frac Type</b> Slickwater			
<b>Date</b> 9/16/2012	From / To 8728 - 8850	# of perfs	<b>BD Press</b> 6,355.00	<b>ATP Psi</b> 7,251.00	<b>SIP Detail</b> 5 Min: 3876 10 Min: 3599
<b>Avg Rate</b> 100.70	<b>Max Press PSI</b> 7,888.00	<b>ISIP</b> 5,271.00	Frac Gradient 1.14		15 Min: 3478
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
203,615.00	4,925.00		750.00		
Stage 41	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 9/16/2012	<b>From / To</b> 8578 - 8700	# of perfs	<b>BD Press</b> 6,500.00	<b>ATP Psi</b> 7,365.00	SIP Detail 5 Min: 4409
<b>Avg Rate</b> 100.80	Max Press PSI 8,502.00	<b>ISIP</b> 5,492.00	Frac Gradient 1.17		10 Min: 3963 15 Min: 3734
Sand	Water-bbl	SCF N2	Acid-Gal		
<b>Proppant</b> 199,652.00	4,851.00		750.00		
Stage 42	Formation MARCELLUS	Frac Type Slickwater			
_			<b>BD Press</b> 6,990.00	<b>ATP Psi</b> 7,239.00	SIP Detail 5 Min: 3535
42 <b>Date</b>	MARCELLUS From / To	Slickwater			
Date 9/17/2012  Avg Rate 100.80  Sand	From / To 8428 - 8550 Max Press PSI	Slickwater # of perfs ISIP	6,990.00  Frac Gradient		5 Min: 3535 10 Min: 3341
Date 9/17/2012  Avg Rate 100.80	From / To 8428 - 8550 Max Press PSI 7,894.00	Slickwater # of perfs ISIP 4,507.00	6,990.00 Frac Gradient 1.03		5 Min: 3535 10 Min: 3341
Date 9/17/2012  Avg Rate 100.80  Sand Proppant	From / To 8428 - 8550 Max Press PSI 7,894.00 Water-bbl	Slickwater # of perfs ISIP 4,507.00	6,990.00  Frac Gradient 1.03  Acid-Gal		5 Min: 3535 10 Min: 3341
Date 9/17/2012  Avg Rate 100.80  Sand Proppant 202,244.00  Stage	From / To 8428 - 8550 Max Press PSI 7,894.00 Water-bbl 4,766.00	# of perfs  # of perfs  ISIP 4,507.00  SCF N2	6,990.00  Frac Gradient 1.03  Acid-Gal	7,239.00	5 Min: 3535 10 Min: 3341 15 Min: 3271 SIP Detail 5 Min: 4127
Date 9/17/2012  Avg Rate 100.80  Sand Proppant 202,244.00  Stage 43  Date	From / To 8428 - 8550  Max Press PSI 7,894.00  Water-bbl 4,766.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 4,507.00  SCF N2  Frac Type Slickwater	6,990.00  Frac Gradient 1.03  Acid-Gal 750.00	7,239.00 ATP Psi	5 Min: 3535 10 Min: 3341 15 Min: 3271
Date 9/17/2012  Avg Rate 100.80  Sand Proppant 202,244.00  Stage 43  Date 9/17/2012  Avg Rate	From / To 8428 - 8550  Max Press PSI 7,894.00  Water-bbl 4,766.00  Formation MARCELLUS  From / To 8278 - 8400  Max Press PSI	# of perfs  ISIP 4,507.00  SCF N2  Frac Type Slickwater # of perfs	6,990.00  Frac Gradient 1.03  Acid-Gal 750.00  BD Press 6,902.00  Frac Gradient	7,239.00 ATP Psi	5 Min: 3535 10 Min: 3341 15 Min: 3271 SIP Detail 5 Min: 4127 10 Min: 3818

Stage 44	Formation MARCELLUS	<b>Frac Type</b> Slickwater			
<b>Date</b> 9/17/2012	From / To 8128 - 8250	# of perfs	<b>BD Press</b> 6,001.00	<b>ATP Psi</b> 7,192.00	<b>SIP Detail</b> 5 Min: 3601 10 Min: 3389
<b>Avg Rate</b> 100.70	<b>Max Press PSI</b> 7,575.00	<b>ISIP</b> 4,549.00	Frac Gradient 1.04		15 Min: 3299
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
199,487.00	5,012.00		750.00		
Stage 1.1	<b>Formation</b> MARCELLUS	<b>Frac Type</b> Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
9/6/2012	14561 - 14583	от ролго	8,465.00	8,410.00	5 Min: 3194 10 Min: 3137
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3103
77.00	8,901.00	3,505.00	0.9		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
184,210.00	9,546.00		2,000.00		

# ELEINEL

APR 08 2013

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	2/7/2013	
API #:	47-103-02699	

Farm name: Sharon Scyoc	Operator Wel	l No.: 513979		
LOCATION: Elevation: 1,474'	Quadrangle:	Pine Grove		
District: Grant	County: Wet	zel, WV		
Latitude: 39.565282 Feet South of Deg.	39 <u>Min</u>	. 35 Sec	o.	<del>_</del>
Longitude_80.626355 Feet West ofDeg.	80 Min	. <u>37</u> Sec	<b>c.</b>	
Company: EQT Production Company				
Address: EQT Plaza, Suite 1700	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
625 Liberty Avenue, Pittsburgh, PA 15222	26	60	60	86.49
Agent: Cecil Ray	13 3/8	850	850	-
Inspector: Derek Haught	9 5/8	3,408	3,408	-
Date Permit Issued: 10/13/2011	5 1/2	14,016	14,016	2,174.6
Date Well Work Commenced: 3/22/2012				
Date Well Work Completed: 6/12/12				
Verbal Plugging: N/A			<u> </u>	
Date Permission granted on: N/A			T	
Rotary Cable Rig				
Total Vertical Depth (ft): 7516.3'				
Total Measured Depth (ft): 14,049'				
Fresh Water Depth (ft.): 340', 736'				
Salt Water Depth (ft.): None reported.				
Is coal being mined in area (N/Y)? No		<del></del>		
Coal Depths (ft.): 76, 91, 169, 181, 222, 352, 413, 458, 553, 668, 690	<del></del>			
Void(s) encountered (N/Y) Depth(s) No		<del></del>		
				<del></del>
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay z			ata on separate si	heet)
Gas: Initial open flowMCF/d Oil: Initial open flow				
Final open flow *Soo cover sheet. MCF/d Final open flow	Bb			
Time of open flow between initial and final tests				
Static rock Pressure **Goo Cover sheet. psig (surface pressure) aft	terHour	rs		
Second producing formation No second formation. Pay zon	ne depth (ft)			
Gas: Initial open flowMCF/d Oil: Initial open flo	owBt	ol/d	٠. ٠.	%.> <u>_</u>
Final open flowMCF/d Final open flow	Bb	1/d		Film
Time of open flow between initial and final tests	Hours			W.Er
Static rock Pressurepsig (surface pressure) aft	terHour	rs	Ap	) A
Final open flow MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure) aft  I certify under penalty of law that I have personally examined a	ınd am familiar	with the inform	í hation submitted	on this document and
all the attachments and that, based on my inquiry of those indiv	riduals immedia	tely responsibl	e for obtaining t	he information I believ
that the information is true, accurate, and complete		<del>-</del>	·	,66
Mil Most		201	2013	SIECHLI,
Signature			Date	- دارس

Were core samples taken? YesNoX	Were cuttings caught during drilling? Yes_X No
Were Electrical, Mechanical or Geophysical logs recorded on this	well? If yes, please list Geophysical
NOTE: IN THE AREA BELOW PUT THE FOLLOW FRACTURING OR STIMULATING, PHYSICAL CHANGE DETAILED GEOLOGICAL RECORD OF THE TOPS A COAL ENCOUNTERED BY THE WELLBORE FROM SUR	ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC ND BOTTOMS OF ALL FORMATIONS. INCLUDING
Perforated Intervals, Fracturing, or Stimulating:	
See Attachment	
- Coo / Maoiniloin	
	P
Plug Back Details Including Plug Type and Depth(s):	
N/A	
Formations Encountered: Top Depth Surface:	Bottom Depth
Sand & Shale / 0 / 76 / 76 Coal / 76 / 78 / 2 Sand & Shale / 78 / 91 / 13	Coal / 91 / 96 / 5 Sand & Shale / 96 / 169 / 73 Coal / 169 / 171 / 2
Sand & Shale / 171 / 181 / 10 - Coal / 181 / 194 / 13 - Sand & Shale / 19	4 / 222 / 28 - Coal / 222 / 225 / 3 - Sand & Shale / 225 / 352 / 127 -
Coal / 352 / 355 / 3 - Sand & Shale / 355 / 380 / 25 - Red Rock / 380 / 3	86 / 6 Sand & Shale / 386 / 400 / 14 Red Rock / 400 / 404 / 4
Sand & Shale / 404 / 413 / 9 Coal / 413 / 416 / 3 Sand & shale / 416	/ 458 / 42 Coal / 458 / 462 / 4 Sand & Shale / 462 / 553 / 91
Coal / 553 / 577 / 24 - Sand & Shale / 577 / 668 / 91 - Coal / 668 / 6	372 / 4 - Sand & Shale / 672 / 690 / 18 - Coal 690 / 712 / 22 -
Sand & Shale / 712 / 1152 / 440 Red Rock / 1152 / 1164 / 12 Sand & Shale / 116	4 / 1330 / 166 Red Rock / 1330 / 1335 / 5 Sand & Shale / 1335 / 1360 / 5
Red Rock / 1360 / 1368 / 8 Sand & shale / 1368 / 13	75 / 7 red Rock / 1375 / 1391 / 16
Sand & Shale / 1391 / 1553 / 142 Red Rock / 1553 /	1560 / 7 Sand & Shale / 1560 / 2306 / 746
Maxton / 2306 / 2524 / 218 - Big Lime / 2524 / 2650 / 126 / -	- Big Injun / 2650 / 2795 / 145 Weir / 2795 / 2994 / 199
Gantz / 2994 / 3114 / 120 50F / 3114 / 3190 / 76 30	F / 3190 / 3242 / 52 Gordon / 3242 / 3324 / 82
Fourth Sand / 3324 / 3450 / 126 Bayard / 3450 / 3902 / 452 W	
Riley / 4898 / 5566 / 668 Benson / 5566 / 5882 / 316	Alexander / 5882 / 7034 / 1152 - 75/1
Sonyea / 7034 / 7202 / 168 Middlesex / 7202 / 7242 / 40 G	
Tully / 7351 / 7376 / 25 Hamilton / 7376 / 7456 / 80 -	- Marcellus 7456 / 7461 / 5 <sup>4-5</sup> 5
Purcell / 7461 / 7516 / 55 Cherry Valley / 7516	- Marcellus 7456 / 7461 / 5°? 0 8 20/3

103-02699

EQT WR- 35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/5/2012	From / To 13671 - 13853	# of perfs	BD Press 8,193.00	<b>ATP Psi</b> 8,368.00	SIP Detail 5 Min: 3600
Avg Rate 84.50	Max Press PSI 8,655.00	<b>ISIP</b> 4,180.00	Frac Gradient 0.99		10 Min: 3461 15 Min: 3396
Sand	Water-bbl	SCF N2	Acid-Gal		
<b>Proppant</b> 372,407.00	10,437.00		2,000.00		
Stage 2	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/5/2012	From / To 13371 - 13613	# of perfs	<b>BD Press</b> 7,403.00	<b>ATP Psi</b> 8,371.00	SIP Detail 5 Min: 3661
Avg Rate 83.40	Max Press PSI 8,899.00	ISIP 4,053.00	Frac Gradient 0.97		10 Min: 3561 15 Min: 3508
Sand	Water-bbl	SCF N2	Acid-Gal		
<b>Proppant</b> 381,687.00	10,167.00		750.00		
Stage 3	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/5/2012	From / To 13071 - 13311	# of perfs	<b>BD Press</b> 6,305.00	<b>ATP Psi</b> 8,302.00	SIP Detail 5 Min: 3992
Avg Rate 83.70	Max Press PSI 8,544.00	<b>ISIP</b> 4,419.00	Frac Gradient 1.02		10 Min: 3770 15 Min: 3629
Sand	Water-bbl	SCF N2	Acid-Gal		
<b>Proppant</b> 372,987.00	9,887.00		750.00		

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Stage 4	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/6/2012	From / To 12771 - 13013	# of perfs	<b>BD Press</b> 6,455.00	<b>ATP Psi</b> 8,445.00	SIP Detail 5 Min: 4176
<b>Avg Rate</b> 77.94	<b>Max Press PSI</b> 9,053.00	<b>ISIP</b> 5,343.00	Frac Gradient 1.15		10 Min: 3908 15 Min: 3774
Sand	Water-bbl	SCF N2	Acid-Gal		
<b>Proppant</b> 244,259.00	9,667.00		750.00		
Stage 5	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/6/2012	From / To 12471 - 12713	# of perfs	<b>BD Press</b> 6,570.00	<b>ATP Psi</b> 8,266.00	SIP Detail 5 Min: 3945
<b>Avg Rate</b> 95.40	<b>Max Press PSI</b> 8,692.00	<b>ISIP</b> 4,497.00	Frac Gradient 1.03	:	10 Min: 3707 15 Min: 3736
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
344,138.00	10,017.00		750.00		
Stage 6	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/6/2012	From / To 12171 - 12413	# of perfs	<b>BD Press</b> 6,818.00	<b>ATP Psi</b> 8,284.00	SIP Detail 5 Min: 3988
Avg Rate 88.80	<b>Max Press PSI</b> 9,068.00	<b>ISIP</b> 4,406.00	Frac Gradient 1.02		10 Min: 3830 15 Min: 3746
Sand	Water-bbl	SCF N2	Acid-Gal		
Sand Proppant 306,905.00	<b>Water-bbl</b> 10,199.00	SCF N2	<b>Acid-Gal</b> 750.00		
<b>Proppant</b>		SCF N2 Frac Type Slickwater			
Proppant 306,905.00 Stage	10,199.00 Formation	Frac Type		<b>ATP Psi</b> 8,068.00	SIP Detail, 5/1, 5 Min: 4062
Proppant 306,905.00 Stage 7	10,199.00  Formation MARCELLUS  From / To	Frac Type Slickwater	750.00 BD Press		SIP Detail
Proppant 306,905.00 Stage 7 Date 11/6/2012 Avg Rate	Formation MARCELLUS  From / To 11871 - 12113  Max Press PSI	Frac Type Slickwater # of perfs	750.00 <b>BD Press</b> 6,452.00 <b>Frac Gradient</b>	8,068.00	SIP Detail

			Frac Type Slickwater	Formation MARCELLUS	<b>Stage</b> 8
SIP Detail 5 Min: 3839	<b>ATP Psi</b> 8,273.00	<b>BD Press</b> 7,056.00	# of perfs	<b>From / To</b> 11571 - 11813	<b>Date</b> 11/7/2012
10 Min: 3738 15 Min: 3691		Frac Gradient 1.03	<b>ISIP</b> 4,497.00	<b>Max Press PSI</b> 8,616.00	<b>Avg Rate</b> 97.80
		Acid-Gal	SCF N2	Water-bbl	Sand Proppant
		750.00		10,114.00	401,487.00
			Frac Type Slickwater	Formation MARCELLUS	<b>Stage</b> 9
SIP Detail 5 Min: 4157	<b>ATP Psi</b> 8,418.00	<b>BD Press</b> 6,555.00	# of perfs	From / To 11271 - 11513	<b>Date</b> 11/7/2012
10 Min: 4033 15 Min: 3945		Frac Gradient 1.13	<b>ISIP</b> 5,248.00	<b>Max Press PSI</b> 8,956.00	<b>Avg Rate</b> 85.20
		Acid-Gal	SCF N2	Water-bbl	Sand Proppant
		750.00		8,408.00	246,261.00
			Frac Type Slickwater	Formation MARCELLUS	<b>Stage</b> 10
SIP Detail 5 Min: 3798	<b>ATP Psi</b> 8,049.00	<b>BD Press</b> 7,501.00	# of perfs	From / To 10971 - 11213	<b>Date</b> 11/7/2012
10 Min: 3731 15 Min: 3693		Frac Gradient 0.98	<b>ISIP</b> 4,120.00	<b>Max Press PSI</b> 8,331.00	<b>Avg Rate</b> 86.60
•					
		Acid-Gal	SCF N2	Water-bbl	Sand Proppant
		<b>Acid-Gal</b> 750.00	SCF N2	<b>Water-bbl</b> 10,308.00	Sand Proppant 369,294.00
* En			SCF N2 Frac Type Slickwater		<b>Proppant</b>
SIP Detail /// 5/Win: 4001	<b>ATP Psi</b> 7,974.00		Frac Type	10,308.00 Formation	Proppant 369,294.00 Stage
SIP Detail		750.00  BD Press	Frac Type Slickwater	10,308.00  Formation MARCELLUS  From / To	Proppant 369,294.00 Stage 11
SIP Detail // 5-Min: 4001 10 Min/ 3860 15 Min: 3797;	7,974.00 <b>E</b> r,	750.00  BD Press 6,167.00  Frac Gradient	Frac Type Slickwater # of perfs ISIP	Formation MARCELLUS  From / To 10671 - 10913  Max Press PSI	Proppant 369,294.00 Stage 11  Date 11/7/2012  Avg Rate 94.00  Sand
SIP Detail // 5-Min: 4001 10 Min/ 3860	7,974.00 <b>E</b> r,	750.00  BD Press 6,167.00  Frac Gradient 1.04	Frac Type Slickwater # of perfs ISIP 4,566.00	Formation MARCELLUS  From / To 10671 - 10913  Max Press PSI 8,548.00	Proppant 369,294.00 Stage 11 Date 11/7/2012 Avg Rate 94.00

Stage 12	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/8/2012	From / To 10371 - 10613	# of perfs	<b>BD Press</b> 7,433.00	<b>ATP Psi</b> 7,849.00	SIP Detail 5 Min: 3889
Avg Rate 98.10	<b>Max Press PSI</b> 8,619.00	<b>ISIP</b> 4,557,00	Frac Gradient 1.04		10 Min: 3748 15 Min: 3714
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
415,731.00	9,771.00		750.00		
<b>Stage</b> 13	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/8/2012	<b>From / To</b> 10071 - 10313	# of perfs	<b>BD Press</b> 6,831.00	<b>ATP Psi</b> 7,996.00	<b>SIP Detail</b> 5 Min: 3769 10 Min: 3680
<b>Avg Rate</b> 95.60	<b>Max Press PSI</b> 8,318.00	<b>ISIP</b> 4,251.00	Frac Gradient 1		15 Min: 3634
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
398,847.00	9,519.00		750.00		
			100.00		
Stage 14	Formation MARCELLUS	Frac Type Slickwater			
		• •	BD Press 6,692.00	<b>ATP Psi</b> 7,941.00	SIP Detail 5 Min: 3804
14 Date	MARCELLUS From / To	Slickwater	BD Press		
Date 11/9/2012  Avg Rate 93.90  Sand	From / To 9771 - 10013 Max Press PSI	Slickwater # of perfs ISIP	BD Press 6,692.00 Frac Gradient		5 Min: 3804 10 Min: 3725
Date 11/9/2012 Avg Rate 93.90	From / To 9771 - 10013 Max Press PSI 8,881.00	# of perfs  # SIP 4,189.00	BD Press 6,692.00 Frac Gradient 0.99		5 Min: 3804 10 Min: 3725
Date 11/9/2012  Avg Rate 93.90  Sand Proppant	From / To 9771 - 10013 Max Press PSI 8,881.00 Water-bbl	# of perfs  # SIP 4,189.00	BD Press 6,692.00 Frac Gradient 0.99 Acid-Gal		5 Min: 3804 10 Min: 3725
Date 11/9/2012  Avg Rate 93.90  Sand Proppant 404,264.00  Stage	From / To 9771 - 10013 Max Press PSI 8,881.00 Water-bbl 9,839.00	# of perfs  # SIP 4,189.00  SCF N2	BD Press 6,692.00 Frac Gradient 0.99 Acid-Gal		5 Min: 3804 10 Min: 3725 15 Min: 3674 SIP Detail 5 Min: 3783
Date 11/9/2012  Avg Rate 93.90  Sand Proppant 404,264.00  Stage 15  Date	From / To 9771 - 10013  Max Press PSI 8,881.00  Water-bbl  9,839.00  Formation MARCELLUS  From / To	# of perfs  # of perfs  ISIP 4,189.00  SCF N2  Frac Type Slickwater	BD Press 6,692.00 Frac Gradient 0.99 Acid-Gal 750.00	7,941.00	5 Min: 3804 10 Min: 3725 15 Min: 3674
Date 11/9/2012  Avg Rate 93.90  Sand Proppant 404,264.00  Stage 15  Date 11/9/2012  Avg Rate	From / To 9771 - 10013  Max Press PSI 8,881.00  Water-bbl  9,839.00  Formation MARCELLUS  From / To 9471 - 9713  Max Press PSI	# of perfs  ISIP 4,189.00  SCF N2  Frac Type Slickwater  # of perfs  ISIP	BD Press 6,692.00  Frac Gradient 0.99  Acid-Gal 750.00  BD Press 6,950.00  Frac Gradient	7,941.00	5 Min: 3804 10 Min: 3725 15 Min: 3674 SIP Detail 5 Min: 3783 10 Min: 3682

Stage 16	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/10/2012	<b>From / To</b> 9171 - 9413	# of perfs	<b>BD Press</b> 6,805.00	ATP Psi SIP Detail 7,903.00 5 Min: 3888	
<b>Avg Rate</b> 99.40	<b>Max Press PSI</b> 8,337.00	<b>ISIP</b> 4,540.00	Frac Gradient 1.04	10 Min: 372 15 Min: 363	
Sand	Water-bbl	SCF N2	Acid-Gal		
<b>Proppant</b> 403,758.00	9,266.00		750.00		
Stage 17	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/10/2012	<b>From / To</b> 8871 - 9113	# of perfs	<b>BD Press</b> 7,559.00	ATP Psi SIP Detail 7,663.00 5 Min: 4659	
Avg Rate 100.00	<b>Max Press PSI</b> 8,806.00	<b>ISIP</b> 5,646.00	Frac Gradient 1.19	10 Min: 429 15 Min: 404	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
399,787.00	9,425.00		750.00		
Stage 18	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/10/2012	<b>From / To</b> 8571 - 8813	# of perfs	<b>BD Press</b> 7,747.00	ATP Psi SIP Detail 8,273.00 5 Min: 3775	
Avg Rate 94.90	<b>Max Press PSI</b> 9,015.00	<b>ISIP</b> 4,585.00	Frac Gradient 1.05	10 Min: 364 15 Min: 358	
Sand Proppant	Water-bbi	SCF N2	Acid-Gal		
397,590.00	10,346.00		750.00		
<b>Stage</b> 19	Formation MARCELLUS	Frac Type Slickwater		78. 公	<b>-</b>
<b>Date</b> 11/10/2012	From / To 8271 - 8513	# of perfs	<b>BD Press</b> 7,097.00	ATP Psi SIP Detail 8,293.00 54 Min. 3860	0 ີ
Avg Rate 98.30	<b>Max Press PSI</b> 8,769.00	<b>ISIP</b> 4,345.00	Frac Gradient 1.01	10 Min 372	
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		. د د
402,187.00	9,401.00		750.00		(.)

				-	
<b>Stage</b> 20	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 11/10/2012	<b>From / To</b> 7971 - 8213	# of perfs	<b>BD Press</b> 7,320.00	<b>ATP Psi</b> 7,368.00	<b>SIP Detail</b> 5 Min: 3738 10 Min: 3641
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3586
100.20	7,738.00	4,188.00	0.99		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
402,512.00	9,372.00		750.00		
<b>Stage</b> 21	Formation MARCELLUS	<b>Frac Type</b> Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
11/10/2012	7806 - 7928	•	6,408.00	7,291.00	5 Min: 3828
					10 Min: 3637
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3611
99.90	7,996.00	4,317.00	1.01		
Sand	Water-bbl	SCF N2	Acid-Gal		
Proppant				•	



WR-35	
Rev (9-1	1)

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	5/28/2013	
API#:	2202013	

Farm name: Underwood, Richard M. & M.	Operator W	ell No.: 51313	5	_
LOCATION: Elevation: 941'	Quadrangle	Big Run		
District: Grant				
Latitude: 10,000 Feet South of 20 De	County: We			
Longitude 8,080 Feet West of 80 D		~	ec.	
Company: EQT Production Company				
Address: EQT Plaza, Suite 1700	Casing &	Used in	Left in well	Cement fill
625 Liberty Avenue, Pittsburgh, PA 15222	Tubing 30	drilling		up Cu. Ft.
Agent: Cecil Ray	13 3/8	65	65	165
Inspector: Derek Haught	9 5/8	767	767	973
Date Permit Issued: 1/26/2011	9 5/8	3,147	3,147	1,298
Date Well Work Commenced: 1/21/2013	+	<del> </del>		
Date Well Work Completed: 3/11/2013	<del></del>	<del> </del>		
Verbal Plugging: NA	<del></del>			
Date Permission granted on: N/A	<del> </del>			
Rotary Cable Rig	<del> </del>			
Total Vertical Depth (ft): 5,086°	<del> </del>			
Total Measured Depth (fi): 5,086°				
Fresh Water Depth (ft.): 80'	<del> </del>			
Sait Water Depth (ft.): 1,545	<del> </del>			
Is coal being mined in area (N/Y)? No	<b> </b>			
Coal Depths (ft.): 270', 370',440', 534, 630'	ll			
Void(s) encountered (N/Y) Depth(s) No				
OPEN FLOW DATA (If more than two producing formation  Producing formation Not Completed At TANTIME Pay at  Gas: Initial open flow MCF/d Oil: Initial open flow  Final open flow NA MCF/d Final open flow  Time of open flow between initial and final tests  Static rock Pressure NA psig (surface pressure) after	BbVo	d	on separate shee	H)
Second producing formation No second formation				
	depth (ft)			
MC F/d Cincles	WBbVd	ı		
THE OF ORCH HOW DETWEEN CHIEF AND A				
Static rock Pressurepsig (surface pressure) after	Hours			
ify under penalty of law that I have personally examined and e attachments and that, based on my inquiry of those individ the information is true, accounts	l am familiae	4.1		
e attachments and that, based on my inquiry of those individ the information is true, accurate, and complete.	uals immediatelt	in the information	on submitted on t	this document an
and complete.		restructible to	r obtaining the in	formation I beli
mit but	-			
Signature		5/28/201		
		Date	;	

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WV Department of Environmental Protection

Were core samples taken	Kara Cara Cara Cara Cara Cara Cara Cara		ht during drilling? YesNo_X
Were Electrical, Mechani	ical or Geophysical logs recor	ded on this well? If yes, please li	st Surf. CBL, Int. CBL, Gyro
DETAILED GEOLOG COAL ENCOUNTERE	ICAL RECORD OF THI D BY THE WELLBORE F	FOLLOWING: I). DETAILS CHANGE, ETC. 2). THE WE E TOPS AND BOTTOMS OF ROM SURFACE TO TOTAL	S OF PERFORATED INTERVALS, LL LOG WHICH IS A SYSTEMATIC F ALL FORMATIONS, INCLUDING DEPTH.
Perforated Intervals, Frac	turing, or Stimulating:		
N/A			
A VIII A COMMISSION OF THE COM	A CONTRACTOR OF THE CONTRACTOR		
Plug Back Details Including	ng Plug Type and Depth(s): ף	J/Δ	
Formations Encountered: Surface:		Top Depth /	Bottom Depth
Sand/Shale 0/270/270	Coal 270/272/2	Sand/Shale 272/370/98	Coa! 370/374/4
Sand/Shale 374/440/66	Coal 440/443/3	Sand/Shale 443/534/91	Coal 534/537/3
Sand/Shale 537/630/93	Coal 630/632/2	Sand/Shale 632/1732/1100	Maxton 1732/1853/121
Big Lime 1853/2220/367	Weir 2220/2425/205	Gantz 2425/2540/115	50F 2540/2618/78
30F 2618/2668/50	Gordon 2668/2735/67	4th 2735/2841/106	Bayard 2841/3327/486
Narren 3327/3469/142	Speechley 3469/3855/386	Balltown A 3855/4314/459	Riley 4314/4938/624
Benson 4938/5066/126			
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			JUN 1 2 2013
			WV Department of
		Eff	vironmental Protection

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WR-35 Rev (9-11)

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/3/2013
API#:	47-033-05453-00

Farm name; Post, Mary et al	Operator Well	No.: Robert Hau	ight South Unit 11	<u> </u>
LOCATION: Elevation: 1060'	Quadrangle: Salem			
District: Tenmile	County: Harris	ion		
Latitude: 10,960' Feet South of 39 Deg.	20 Min.		•	<del></del>
Longitude 12,294' Feet West of 80 Deg.				
Company: Hall Drilling Co., LLC				
Address: P.O. Box 249	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Ellenboro, WV 26346	24" 120#	23'	23'	13 Cu. Ft. Grout
Agent: Mike Hall	20" 94#	120'	120'	55 Cu. Ft. Grout
Inspector: Tristan Jenkins	13-3/8" 54.5#	420'	420'	590 Cu. Ft. Class A
Date Permit Issued: 8/16/2010	9-5/8" 36#	3079'	3079'	1176 Cu. Ft. Class A
Date Well Work Commenced: 8/12/2010	5-1/2" 20#	14,436'	14,436'	3571 Cu. Ft. Class H
Date Well Work Completed: 2/15/2011				
Verbal Plugging: N/A	2-3/8" 4.7#	7312'		
Date Permission granted on: N/A	Cement Plug	Тор	Bottom	
Rotary Cable Rig		420'	690'	221 Cu Ft. Class A
Total Vertical Depth (ft): 7212' TVD (deepest po	oint drilled)			
Total Measured Depth (ft): 14,453' MD, 7167' TV	(BHL)			
Fresh Water Depth (ft.): est. 70'				
Salt Water Depth (ft.): 620'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 215', 505', 785'				
Void(s) encountered (N/Y) Depth(s) N, N/A				
Gas: Initial open flowMCF/d Oil: Initial open flow Final open flow 10,242 MCF/d Final open flow Time of open flow between initial and final tests N/A Static rock Pressure 3800psig (surface pressure) af	zone depth (ft) 7 low N/A Bb y N/A Bbl Hours ter Hours ne depth (ft) ow Bb y Bbl	<b>199' TV</b> D (T <b>o</b> p 1/d /d s <u>V</u> d		heet)
Static rock Pressure psig (surface pressure) aff		<b>s</b>		
	10012	•		

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and & Gas all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information believe that the information is true, accurate, and complete.

Signature

4-3-13

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Were core samples taken? Ye	esNoX	Vere cuttings caught during drilling? Yes X NoNo
Were Electrical, Mechanical or	Geophysical logs recorded on this we	Il? If yes, please list Yes- CBL
FRACTURING OR STIMU DETAILED GEOLOGICAL	LATING, PHYSICAL CHANGE, E	G: 1). DETAILS OF PERFORATED INTERVALS, TC. 2). THE WELL LOG WHICH IS A SYSTEMATIC BOTTOMS OF ALL FORMATIONS, INCLUDING ICE TO TOTAL DEPTH.
Perforated Intervals, Fracturing	;, or Stimulating:	
Perforations: 7585' - 14,3	73' MD (1224 holes)	
Frac'd w/ 5178 gals 15%	HCL Acid, 129,552 bbls Slick V	Vater carrying 657,080# 100 mesh,
23,151,700# 40/70 and 1,		
Plug Back Details Including Pl	ig Type and Denth(s): ALLA	
	-g 1)po min Dobm(o). N/A	
Formations Encountered: Surface:	Top Depth	
Surrace.		
Big Lime	2068'	2135'
Big Injun	2136'	2514'
Gantz Sand	2515'	2647'
Fifty Foot Sand	2648'	2737'
Gordon	2738'	3086'
Fifth Sandstone	3087'	3114'
Bayard	3115'	3854'
Speechley	3855'	4159'
Balltown	4160'	4498'
Bradford	4499'	5048'
Benson	5049'	5339'
Alexander	5340'	5544'
Elk	5545'	6137'
Rhinestreet	6138'	6504'
Sycamore Gas	6505'	6868'
Middlesex	6869'	7017'
Burket	7018'	7017 7045'
Tully	7046'	7045 7189'
Marcellus	7190'	7212' TVD

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3PR 1 2 2013

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/3/2013
API #:	47-017-05899-00

Farm name: Whitehair, Elton		Opera	ator Well No.: <u>F</u>	Maxwell Heirs 1A	
LOCATION: Elevation: 1271		Quad	rangle: New Milt	ton 7.5'	
District: New Milton		Coun	ty: Doddridge		
Latitude: 7599"	Feet South of 39	Deg. 12	Min. 30	Sec.	
Longitude 21'	Feet West of 80	Deg. 40	Min. 00	Sec.	

Hall Drilling Co., LLC Company: Casing & Used in Left in well Cement fill P.O. Box 249 Address: **Tubing** drilling up Cu. Ft. Ellenboro, WV 26346 Mike Hall Agent: 378' 378 **LTS** Inspector: Sam Ward 2,574' 2,574' CTS Date Permit Issued: 12/3/2009 7.353 120 SKS Date Well Work Commenced: 2/1/2010 Date Well Work Completed: N/A Verbal Plugging: N/A Date Permission granted on: Rotary 🗸 Cable Rig Total Vertical Depth (ft): 7424' Total Measured Depth (ft): 7424' Fresh Water Depth (ft.): est 169', 295' 955', 2200' Salt Water Depth (ft.): Is coal being mined in area (N/Y)? Coal Depths (ft.): 371', 584', 899' Void(s) encountered (N/Y) Depth(s) N, N/A

Producing formation Marcellu	Pay zone de	epth (ft) 7183' TVD (Top)	
Gas: Initial open flow	_MCF/d Oil: Initial open flow_N	/A Bbl/d	
Final open flow 846	_MCF/d Final open flow N/A	Bbl/d	
Time of open flow between	en initial and final tests N/A	Hours	
Static rock Pressure 3800	psig (surface pressure) after	Цоне	
	paig (surface pressure) after	nouis	
	Pay zone dep		
Second producing formation		th (ft)	
Second producing formation	Pay zone dep _MCF/d Oil: Initial open flow	th (ft)Bbl/d	
Second producing formation  Gas: Initial open flow  Final open flow	Pay zone dep	sh (ft) Bbl/d Bbl/d	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this declines and lateral than the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe Gas that the information is true, accurate, and complete:

4-3-13

Were core samples taken? Yes	No_X W	ere cuttings caught during drilling	g? Yes X No				
Were Electrical, Mechanical or Geo	physical logs recorded on this well	? If yes, please list					
NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.  Perforated Intervals, Fracturing, or Stimulating:							
	•						
Discoular and David To Later Discoular	15 1()						
Plug Back Details Including Plug Ty	pe and Depth(s): N/A						
Formations Encountered:	Top Depth		Bottom Depth				
Surface:							
ig Lime	2253'	2344'					
ig Injun	2345'	2589'					
antz Sand	2590'	2768'					
fty Foot Sand	2769'	2969'					
ordon	2970'	3325'					
fth Sandstone	3326'	3389'					
ayard	3390'	3953'					
peechley	3954'	4150'					
alltown	4151'	4792'					
radford	4793'	5257'					
enson	5258'	5504'					
lexander	5505'	5726'					
k	5727'	6262'					
ninestreet	6263'	6760'					
/camore	6761'	6918'					
liddlesex	6919'	7065'					
urket	7066'	7096'					
ılly	7097'	7182'					
larcellus	7183'	7424' TVD	n.				
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# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/3/2013
API#:	47-033-05413-00

CATION: Elevation: 1247	Quadrangle: Salem			<u></u>
District: Tenmile	County: Harris	rison		
Latitude: 440 Feet South of 39 Deg.	17 Min.		C.	<del></del>
Longitude 10,835' Feet West of 80 Deg.	32 Min.	30 Se	c.	
Company: Hall Drilling Co., LLC				
Address: P.O. Box 249	Casing & Tubing	Used in drilling	Left in well	Cement fiil up Cu. Ft.
Ellenboro, WV 26346	20" 94#	35'	35'	67 Cu. Ft. Class A
Agent: Mike Hall	13-3/8" 54.5#	405'	405'	586 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	3138'	3138'	1311 Cu. Ft. Class A
Date Permit Issued: 5/6/2010	5-1/2" 20#	12,200'	12,200'	2779 Cu. Ft. Class H
Date Well Work Commenced: 5/11/2010				
Date Well Work Completed: 10/08/2010	2-3/8" 4.7#	7497'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7460' TVD (deepest po	oint drilled)			
Total Measured Depth (ft): 12,212' MD, 7460' TV	D (BHL)			
Fresh Water Depth (ft.): est. 70'				
Salt Water Depth (ft.): 1600'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.); 377', 665', 945'		-		
Void(s) encountered (N/Y) Depth(s) N, N/A				
OPEN FLOW DATA (If more than two producing formation	ons please includ	le additional d	ata on separate s	sheet)
	zone depth (ft)_7		op)	
Gas: Initial open flow MCF/d Oil: Initial open flow				
Final open flow 3,782 MCF/d Final open flow Time of open flow between initial and final tests N/A	/ N/A Bbl Hours	/a		
Static rock Pressure 3800 psig (surface pressure) af		S		
		-		
•	ne depth (ft)	<del></del>		
Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow				
Time of open flow between initial and final tests	Hours	/u		
Static rock Pressure psig (surface pressure) af		-		

4-3-13 APR 1 2 2013

Signature

that the information is true, accurate, and complete

Date

Were core samples taken? Yes	No_X	re cuttings caught during drilling? Yes X No		
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes-CBL				
FRACTURING OR STIMULAT	ING, PHYSICAL CHANGE, ETC CORD OF THE TOPS AND	1). DETAILS OF PERFORATED INTERVALS C. 2). THE WELL LOG WHICH IS A SYSTEMATIO BOTTOMS OF ALL FORMATIONS, INCLUDING E TO TOTAL DEPTH.		
Perforated Intervals, Fracturing, or S	Stimulating:			
Perforations: 7952' - 12,112' N	MD (600 holes)			
Frac'd w/104,001 bbls Slick W	/ater carrying 1,902,857# 80	/100, 20/40 and 30/50 sand.		
Plug Back Details Including Plug Ty	pe and Depth(s): N/A	<u> </u>		
Formations Encountered: Surface:	Top Depth	/ Bottom Depth		
	3874'	4131'		
peechley Balltown	4132'	4656'		
radford	4657'	5211'		
	5212'	5478'		
lenson Nexander	5479'	5697'		
	5698'	6212'		
ik Rhinestreet	62 <b>1</b> 3'	6792'		
	6793'	· 7019'		
lycamore	7020'	7015 7177'		
Middlesex	7020 71 <b>7</b> 8'	7177 7199'		
Burket Tulka	7178 7200'	71 <del>99</del> 7349'		
'ully Marcellus	7250'	7343 7460' TVD		
/iai CEllus	1330	/ <del>700</del> 1 <b>8 D</b>		

Marcellus

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## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/3/2013
API#:	47-033-05448-00

Operator Well	No.: Hustead &	South 1H	
Quadrangle: _	Selem		<u> </u>
17 Min.	30 Se		
Casing &	Used in	Left in well	Cement fill
		35'	up Cu. Ft.
			642 Cu. Ft. Class A
<del></del>		<del></del>	1273 Cu. Ft. Class A
<del></del>			3308 Cu. Ft. Class H
		1 1,0.0	
2-3/8" 4.7#	7459'		<del></del>
		-	
Cement Plug	Тор	Bottom	1
	470'	723'	
oint drilled)			
D (BHL)			
zone depth (ft) 7 low N/A Bb y N/A Bb Hours ter Hour ne depth (ft) ow Bb	/354' TVD (To 1/d //d s	ata on separate s p)	heet)
	Quadrangle: Section   Se	Quadrangle:   Salem	County: Harrison    Min. 30   Sec.     Sec.     Sec.     Min. 30   Sec.     Sec.     Sec.     Min. 30   Sec.     Sec.     Min. 30   Sec.     Sec.     Sec.     Min. 30   Sec.     Sec.     Sec.     Min. 30   Sec.     Sec.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believed that the information is true, accurate, and complete.

Office of Oil & Gas

nature Date

APR 1 2 2013

Were core samples taken? Yes	No_X We	re cuttings caught during drilling? Yes XNo			
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes- CBL					
FRACTURING OR STIMULAT DETAILED GEOLOGICAL R	ING. PHYSICAL CHANGE. ET	: 1). DETAILS OF PERFORATED INTERVAL C. 2). THE WELL LOG WHICH IS A SYSTEMAT BOTTOMS OF ALL FORMATIONS, INCLUDIN EE TO TOTAL DEPTH.			
Perforated Intervals, Fracturing, or	Stimulating:				
Perforations: 7770' - 13,992'	MD (900 holes)				
Frac'd w/160,001 bbls Slick V	Vater carrying 3,099,843# 80	/100, 20/40 and 30/50 sand.			
Plug Back Details Including Plug T	ype and Depth(s): N/A				
	1477				
Formations Encountered: Surface:	Top Depth	/ Bottom Depth			
<del></del>					
Speechley	3874'	4131'			
Balltown	4132'	4656'			
Bradford	4657'	<b>5211'</b>			
Benson	<b>5212'</b>	5478'			
Alexander	5479'	5697'			
Elk	5698'	6212'			
Rhinestreet	6213'	6758'			
Sycamore	<b>6759'</b>	7018'			
Middlesex	7019'	7176'			
Burket	7177'	7201'			
<b>Fully</b>	7202'	7353'			
Marcellus	7354'	7376' TVD			

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### State of West Virginia Department of Environmental Protection Office of Oil and Gas

DATE:	3/12/2012	
API#:	47-033-05437	

Well Operator's Report of Well Work

OCATION: Elevation: 1038	Quadrangle: _S	Salem 7.5'		
District: Tenmile	County: Harris	on		
	g. 20 Min.		с.	<del></del>
Longitude 5854 Feet West of 80 D	eg. <u>30</u> Min.	oo Se	c.	
Company: Hall Drilling, LLC				
Address: P.O. Box 249	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Pt.
Ellenboro, WV 26346	20" 94#	40'	40'	38 Cu. Ft. Grout
Agent: Michael T. Hall	13-3/8" 54.5#	425'	425'	590 Cu. Ft. Cissa A
Inspector: Tristan Jenkins	9-5/8" 36#	` 2714'	2714'	1105 Cu. Ft. Class A
Date Permit Issued: 6/15/2010	5-1/2" 20#	14750'	14750'	3592 Cu. Ft. Class H
Date Well Work Commenced: 11/15/2010				
Date Well Work Completed: 7/14/2011	2-3/8" 4.7#	7455'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7237' TVD (deepest	point drilled)			
Total Measured Depth (ft): 14,750' MD, 7182'	TVD (BHL)	<del> </del>		
Fresh Water Depth (ft.): 215'				<del>†                                      </del>
Salt Water Depth (ft.): *N/A				
Is coal being mined in area (N/Y)? No	*Due to air dri	ling, Hall was	unable to identif	v accurate
Coal Depths (ft.): *N/A	salt water and/			
Void(s) encountered (N/Y) Depth(s) N, N/A				
OPEN FLOW DATA (If more than two producing forms	y zone depth (ft) 7.  1 flow N/A Bb.  6 w N/A Bb.  //A Hours	215' TVD (To I/d /d	ata on separate s p)	heet)
Second producing formation Pay :  Gas: Initial open flow MCF/d Oil: Initial open		//d		
Final open flow MCF/d Final open fl	owBbl/			
Time of open flow between initial and final tests	Hours			

Foretify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe it & Gas that the information is true, accurate, and complete.

Were core samples taken? Yes	No X Were cuttings	caught during drilling? Yes X No
Were Electrical, Mechanical or Geophy: Photo Density/Compensated Neutron/Gemma Ray and	sical logs recorded on this well? If yes, ple	ease list Yes - Cement Bond/Gamma Ray/CCL Log.
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	PUT THE FOLLOWING: 1). DET C, PHYSICAL CHANGE, ETC. 2). THE PRD OF THE TOPS AND BOTTOM PELLBORE FROM SURFACE TO TO	TAILS OF PERFORATED INTERVALS, E WELL LOG WHICH IS A SYSTEMATIC IS OF ALL FORMATIONS, INCLUDING TAL DEPTH.
Perforated Intervals, Fracturing, or Stim	_	
Perforations: 7,581' - 14,683' ME		
	ld, 119,472bbls Slick Water carryi	ing 601,400# 100 mesh,
2,451,200# 40/70 and 1,458,000	# 20/40 sand.	
<del></del>		
Plug Back Details Including Plug Type a	and Depth(s): N/A	
Formations Encountered: Surface:	Top Depth /	Bottom Depth
Big Lime	1986'	2082'
Big Injun	2083'	2539'
Gantz	2540'	2653'
Fifty Foot	2654'	2755'
Gordon	2756'	3098'
Fifth Sand	3099'	3144'
Bayard	3145'	3638'
Speechley	3639'	3852'
Balltown	3853'	4291'
Bradford	4292'	4925'
Benson	4926'	5241'
Alexander	5242'	5524'
Elk	5525'	<del>66</del> 12'
Sycamore	6613'	7068'
Tully	7069'	7161'
Hamilton	7162'	7214' Received
Marcellus	7215'	7237' TVBfice of Oil & Gas

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/3/2013
API#:	47-033-05375-00

	County: Hams 20 Min. g. 30 Min.  Casing & Tubing 26" 120# 20" 94# 13-3/8" 54.5# 9-5/8" 36# 5-1/2" 20#  2-3/8" 4.7# Cement Plug	on Sec		Cement fill up Cu. Ft. 24 Cu. Ft. Class A 182 Cu. Ft. Class A 727 Cu. Ft. Class A 1231 Cu. Ft. Class A 2633 Cu. Ft. Class H
Latitude: 10.973' Feet South of 39 Deg Longitude 12.308' Feet West of 80 Deg  Company: Hall Drilling Co., LLC  Address: P.O. Box 249  Ellenboro, WV 26346  Agent: Mike Hall  Inspector: Tristan Jenkins  Date Permit Issued: 1/13/2010  Date Well Work Commenced: 4/23/2010  Date Well Work Completed: 7/25/2010	Casing & Tubing 26" 120# 20" 94# 13-3/8" 54.5# 9-5/8" 36# 5-1/2" 20#	Used in drilling 10' 95' 522' 3059' 11,225'	Left in well  10' 95' 522' 3059'	up Cu. Ft. 24 Cu. Ft. Class A 182 Cu. Ft. Class A 727 Cu. Ft. Class A 1231 Cu. Ft. Class A
Latitude: 10.973' Feet South of 39 Deg Longitude 12.308' Feet West of 80 Deg  Company: Hall Drilling Co., LLC  Address: P.O. Box 249  Ellenboro, WV 26346  Agent: Mike Hall  Inspector: Tristan Jenkins  Date Permit Issued: 1/13/2010  Date Well Work Commenced: 4/23/2010  Date Well Work Completed: 7/25/2010	Casing & Tubing 26" 120# 20" 94# 13-3/8" 54.5# 9-5/8" 36# 5-1/2" 20#	Used in drilling 10' 95' 522' 3059' 11,225'	Left in well  10' 95' 522' 3059'	up Cu. Ft. 24 Cu. Ft. Class A 182 Cu. Ft. Class A 727 Cu. Ft. Class A 1231 Cu. Ft. Class A
Longitude 12,308' Feet West of 80 De  Company: Hall Drilling Co., LLC  Address: P.O. Box 249  Ellenboro, WV 26346  Agent: Mike Hall  Inspector: Tristan Jenkins  Date Permit Issued: 1/13/2010  Date Well Work Commenced: 4/23/2010  Date Well Work Completed: 7/25/2010	Casing & Tubing 26" 120# 20" 94# 13-3/8" 54.5# 9-5/8" 36# 5-1/2" 20#	Used in drilling 10' 95' 522' 3059' 11,225'	Left in well  10' 95' 522' 3059'	up Cu. Ft. 24 Cu. Ft. Class A 182 Cu. Ft. Class A 727 Cu. Ft. Class A 1231 Cu. Ft. Class A
Address: P.O. Box 249  Ellenboro, WV 26346  Agent: Mike Hall Inspector: Tristan Jenkins  Date Permit Issued: 1/13/2010  Date Well Work Commenced: 4/23/2010  Date Well Work Completed: 7/25/2010	Tubing 26" 120# 20" 94# 13-3/8" 54.5# 9-5/8" 36# 5-1/2" 20#	drilling 10' 95' 522' 3059' 11,225'	10' 95' 522' 3059'	up Cu. Ft. 24 Cu. Ft. Class A 182 Cu. Ft. Class A 727 Cu. Ft. Class A 1231 Cu. Ft. Class A
Ellenboro, WV 26346  Agent: Mike Hall  Inspector: Tristan Jenkins  Date Permit Issued: 1/13/2010  Date Well Work Commenced: 4/23/2010  Date Well Work Completed: 7/25/2010	Tubing 26" 120# 20" 94# 13-3/8" 54.5# 9-5/8" 36# 5-1/2" 20#	drilling 10' 95' 522' 3059' 11,225'	10' 95' 522' 3059'	up Cu. Ft. 24 Cu. Ft. Class A 182 Cu. Ft. Class A 727 Cu. Ft. Class A 1231 Cu. Ft. Class A
Agent: Mike Hall Inspector: Tristan Jenkins Date Permit Issued: 1/13/2010 Date Well Work Commenced: 4/23/2010 Date Well Work Completed: 7/25/2010	20" 94# 13-3/8" 54.5# 9-5/8" 36# 5-1/2" 20# 2-3/8" 4.7#	95' 522' 3059' 11,225'	95' 522' 3059'	182 Cu. Ft. Class A 727 Cu. Ft. Class A 1231 Cu. Ft. Class A
Inspector: Tristan Jenkins  Date Permit Issued: 1/13/2010  Date Well Work Commenced: 4/23/2010  Date Well Work Completed: 7/25/2010	13-3/8" 54.5# 9-5/8" 36# 5-1/2" 20# 2-3/8" 4.7#	522' 3059' 11,225'	522' 3059'	727 Cu. Ft. Class A
Date Permit Issued: 1/13/2010  Date Well Work Commenced: 4/23/2010  Date Well Work Completed: 7/25/2010	9-5/8" 36# 5-1/2" 20# 2-3/8" 4.7#	3059' 11,225'	3059'	1231 Cu. Ft. Class A
Date Well Work Commenced: 4/23/2010  Date Well Work Completed: 7/25/2010	5-1/2" 20# 2-3/8" 4.7#	11,225'		
Date Well Work Completed: 7/25/2010	2-3/8" 4.7#		11,225'	2533 Cu. Ft. Class H
Date Well Work Completed: 7/25/2010	<del></del>	7367'		
	<del></del>	7367'		
	Cement Plug			
Date Permission granted on: N/A		Тор	Bottom	
Rotary Cable Rig		6244'	7330'	1813 Cu Ft. Class A
Total Vertical Depth (ft): 7213' TVD (deepest	point drilled)			
Total Measured Depth (ft): 11,234' MD, 7194' T	VD (BHL)			
Fresh Water Depth (ft.): est. 70'				
Salt Water Depth (ft.): est 1600'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 377', 665', 945'				
Void(s) encountered (N/Y) Depth(s) N, N/A				
OPEN FLOW DATA (If more than two producing format	tions please includy 20ne depth (ft) 7	de additional d 7194' TVD (To	ata on separate s	sheet)
Gas: Initial open flow MCF/d Oil: Initial open	flow N/A Bt	ol/d		
Final open flow 5,232 MCF/d Final open flow				
Time of open flow between initial and final tests No.  Static rock Pressure 3800 psig (surface pressure)				
Static rock Pressure 3800 psig (surface pressure)	afterHour	18		
• • • • • • • • • • • • • • • • • • • •	zone depth (ft)			
Gas: Initial open flowMCF/d Oil: Initial open		oVd		
Final open flow MCF/d Final open flo		Vd	•	
Time of open flow between initial and final tests_	Hours after Hour	•		
Static rock Pressurepsig (surface pressure)		_		
ertify under penalty of law that I have personally examine	d and am familiar	with the infor	mation submitte	d on this docume
me anacimients and mar, based on my infanty of mose in	dividuals immedia	tely responsib	le for obtaining	the information i
at the information is true, accurate, and complete.	/	_		0.

Were Electrical, Mechanical or Geople				
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes- CBL				
NOTE: IN THE AREA BELO' FRACTURING OR STIMULATION DETAILED GEOLOGICAL REC COAL ENCOUNTERED BY THE	NG, PHYSICAL CHANGE, ETC. CORD OF THE TOPS AND BO	2). THE WELL LOG WE OTTOMS OF ALL FOR	iich is a systematic	
Perforated Intervals, Fracturing, or Sti	imulating:			
Perforations: 7468' - 11,144' M	D (540 holes)			
Frac'd w/12,500 gals 15% HCL	Acid, 97,147 bbls Slick Water	er carrying 1,979,261#	20/40 and 30/50 sand	
	-	<del></del>		
Plug Back Details Including Plug Typ	e and Depth(s): N/A			
Formations Encountered: Surface:	Top Depth		Bottom Depth	
lig Lime	2058'	2124'		
lig Injun	2125'	2517'		
Santz Sand	2518'	2644'		
ifty Foot Sand	2645'	2727'		
iordon	2728'	3076'		
ifth Sandstone	3078'	3102'		
ayard	3103'	3837'		
peechley	3838'	4144'		
alltown	4145'	4480'		
radford	4481'	5034'		
enson	5035'	5273'		
lexander	5274'	6589'		
ycamore	6590'	6834'		
1iddlesex	6835'	7014'		
urket	7015'	7042'		
ully	7043'	7193'		
Aarcellus	7194'	7213' TVD		

Raceived Gas
Office of Oil & Gas

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	June 12, 2013	
API #:	47-033-05145	

Farm name: Oliverio	Operator Well No.: #1 WV0272				
LOCATION: Elevation: 1,038' Quad		uadrangle: West Milford 7.5'			
District: Union (Outside)	County: Harris	son		<del></del>	
Latitude: 4.110° Feet South of 39 Deg.	14 Min			<del></del>	
Longitude 4.010' Feet West of 80 Deg.		20.5 Sec.			
Company: Mountain V Oil & Gas, Inc.					
Address: PO Box 470	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Bridgeport, WV 26330	9 5/8"		212	CTS	
Agent: Mike Shaver	7"		1,402	CTS	
Inspector: Sam Ward (Was Tim Bennett when drilled)	4 1/2"		3,275	145 sks	
Date Permit Issued: 09-02-2008					
Date Well Work Commenced: 12-09-2008					
Date Well Work Completed: 12-18-2008			RECEI	VED	
Verbal Plugging:		-	ffice of O	1 & Gas	
Date Permission granted on:			11 1A1 = ==		
Rotary Cable Rig			JUN 17	2013	
Total Vertical Depth (ft): 3,408'		W	V Donout		
Total Measured Depth (ft): 3,408'		Enviro	V Departr	rent of	
Fresh Water Depth (ft.): 111'			<del>''''''\BH</del>	rent of Protection	
Salt Water Depth (ft.): 1305'					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): N/A					
Void(s) encountered (N/Y) Depth(s) N					
OPEN FLOW DATA (If more than two producing formatio	ns please inclu	de additional da	to on concess als		
Producing formation 50/oot, 4th/5th, Bayard, Bradford, 1 Riley Pay z	one depth (ft)	ao additional da	ia on separate si	eet)	
Gas: Initial open flow Odar MCF/d Oil: Initial open flo		ol/d			
Final open flow 1163 MCF/d Final open flow	, <u>N/A</u> Bb	l/d			
Time of open flow between initial and final tests 72	Hours				
Static rock Pressure 650 psig (surface pressure) aft	ter 24 Hour	rs .			
Second producing formation Comingled Pay zon	ne depth (ft)				
Gas: Initial open flow MCF/d Oil: Initial open flo		ol/d			
	Final open flow MCF/d Final open flow Bbl/d Time of open flow between initial and final tests Hours				
Static rock Pressurepsig (surface pressure) afterHours					
certify under penalty of law that I have personally examined a					
all the attachments and that, based on my inquiry of those individuals	ind am Iamiliar viduals immedia	with the inform	ation submitted	on this document and	
that the information is true, accurate and complete	Touris milledia	uciy responsible	tor obtaining th	e information I believe	
$INV^{rv}$		6-	12-13		
Signature		_	Date		

Were core samples taken? YesNo_X	Were cuttings caught during drilling? Yes X No
Were Electrical, Mechanical or Geophysical logs record	ded on this well? If yes, please list GR, CD, Induction, Density, Temp, PE
FRACTURING OR STIMULATING, PHYSICAL	FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING FROM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
Stage 1: 3208 10 Holes Perf	
3080 2 Holes Perf > 150 s	sks Proppant 75 Q Delta
2984 6 Holes Perf	
Stage 2: 2280-2293 - 26 Holes - 250 sks Pro	oppant 75 Q Delta
Stage 3: 2145-2209 - 36 Holes - 300 sks Pro	oppant 75 Q Delta
Stage 4: 1790-1946 - 56 Holes - 450 sks Pro	oppant 75 Q Delta
Plug Back Details Including Plug Type and Depth(s):	
Formations Encountered: Surface:	Top Depth / Bottom Depth
Fill/Sand/Shale: 0-1310	Balltown: 2660-2800
Greenbrier Big Lime: 1310-1478	Bradford: 2800-2888
Big Injun SS: 1478-1620	1 Riley: 2888-3170
Squaw: 1620-1700	2 Riley: 3170-3408
Weir: 1700-1780	TD: 3408
Gantz - Berea: 1780-1850	
50 Foot: 1850-1936	
30 Foot: 1936-1975	
Gordon str: 1975-2048	
Gordon: 2048-2103	
4th: 2103-2205	
5th: 2205-2268	
Bayard: 2268-2325	
Warren: 2325-2440	
Speechley: 2440-2660	

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	June 12, 2013
API#:	47-041-05343

Farm name: McLaughlin	Operator We	II No.: #1 WV0194	1	- Minister cases g
LOCATION: Elevation: 1,133'	Quadrangle:	Peterson 7.5'		
District: Courthouse	County: Lewi	s		
Latitude: 820' Feet South of 38 Deg. 5		n. 30 Sec		
Longitude 6610 Feet West of 80 Deg.		1. 30 Sec		
Company, Mountain V Oil & Gas, Inc.				
Company: Mountain V On & Gas, Inc.	O	Transit.	11.02	0 (8)
Address: PO Box 470	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Bridgeport, WV 26330	9 5/8"		42	CTS
Agent: Mike Shaver	7"		481	CTS
Inspector: Bill Hatfield (Was Tim Bennett when drilled)	4 1/2"		4,735	245 sks
Date Permit Issued: 10/19/2007				
Date Well Work Commenced: 12/01/2007				
Date Well Work Completed: 12/11/2007				
Verbal Plugging:			RECE	VED
Date Permission granted on:			Office of C	il & Gas
Rotary Cable Rig			יט שטוווע	<del>)   3 GGG</del>
Total Vertical Depth (ft): 4,892'			JUN 1	2013
Total Measured Depth (ft): 4,892'				
Fresh Water Depth (ft.): 115'			WV Depa	tment of
Salt Water Depth (ft.): 976'		Fn	vironment	al Protection
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 118', 319'				
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formation Producing formation Lime, Injun, Gordon, Balltown, Benson Pay z Gas: Initial open flow Odor MCF/d Oil: Initial open flow Final open flow MCF/d Final open flow Time of open flow between initial and final tests 72  Static rock Pressure 510 psig (surface pressure) after the producing formation p	one depth (ft) ow N/A B , N/A BI Hours	BbI/d bI/d s	ita on separate sh	eet)
Second producing formation Comingled Pay zon	ne depth (ft)			
Gas: Initial open flow MCF/d Oil: Initial open flo		bl/d		
Final open flowMCF/d Final open flow Time of open flow between initial and final tests		bl/d		
Static rock Pressurepsig (surface pressure) aft	Hours			
I certify under penalty of law that I have personally examined a all the attachments and that, based on my inquiry of those indivithat the information is true, accurate, and complete	ınd am familia	r with the inforn iately responsible	e for obtaining th	on this document and e information I believe
Signature		(0	/2-/3 Date	

Were core samples taken? YesNo_X	Were cuttings caught during drilling? Yes X No
Were Electrical, Mechanical or Geophysical logs recor	ded on this well? If yes, please list GR, CD, Induction, Density, Temp, PE
FRACTURING OR STIMULATING, PHYSICAL	FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING ROM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
Stage 1: 4652-4656 - 16 Holes - 150 sks Pro	oppant 75 Q Delta
Stage 2: 3490-3660 - 20 Holes - 150 sks Pro	oppant 75 Q Delta
Stage 3: 2680-2690 - 20 Holes - 250 sks Pro	oppant 75 Q Delta
Stage 4: 2465-2474 - 18 Holes - 225 sks Pro	oppant 75 Q Delta
Stage 5: 1968-2062 - 24 Holes - 200 sks Pro	oppant 75 Q Delta
Plug Back Details Including Plug Type and Depth(s):	
Formations Encountered: Surface:	Top Depth / Bottom Depth
Fill/Sand/Shale: 0-15	Warren: 3090-3200
Sand/ Shale: 15-115	Speechley: 3200-3240
Coal: 115-118	Shale: 3240-3904
Sand/Shale: 118-315	Balltown: 3904-3955
Coal: 315-319	Sand/Shale: 3955-4287
Sand/Shale: 319-920	Riley: 4287-4350
Sand: 920-976	Sand/Shale: 4350-4735
Sand/Shale: 976-1875	Benson: 4735-4892
Lime: 1875-2100	TD: 4892
Injun: 2100-2250	
Sand/Shale: 2250-2570	
Gordon: 2570-2640	
Sand/Shale: 2640-2775	
Elizabeth: 2775-2850	
Shale: 2850-3090	

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/2/13	
<b>API</b> #:	47-033-05637	

me: Bowyer, Matthew E. & Lisa Operator Well No.: Dawson Unit 1H				
CATION: Elevation: 1,290'	_ Quadrangle: <u>V</u>	Vest Milford		
District: Union_	County: Harris	on		
Latitude: 8,929' Feet South of 39 Deg.				
Longitude 2,364' Feet West of 80 Deg	. <u><sup>27</sup> </u>	. 30 Se	c.	
Automa Paranunasa Ammalashian Cam				
Company: Antero Resources Appalachian Corp		T ==		· · · · · · · · · · · · · · · · · · ·
Address: 1625 17th Street	Casing &	Used in	Left in well	Cement fill
Address: Denver, CO 80202	Tubing 20" 94#	drilling 40'	40'	up Cu. Ft. 38 Cu. Ft. Class A
CT C	+		<del></del>	
Agent: CT Corporation System	13-3/8" 48#	375'	375'	521 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2,518'	2,518'	1025 Cu. Ft. Class A
Date Permit Issued: 6/28/2012	5-1/2" 20#	17,200'	17,200'	4320 Cu. Ft. Class H
Date Well Work Commenced: 9/29/2012				
Date Well Work Completed: 1/21/2013	2-3/8" 4.7#	7,150'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7099' TVD (deepest po	oint drilled)			
Total Measured Depth (ft): 17,200' MD, 7047' TV	'D (BHL)			
Fresh Water Depth (ft.): 180'				
Salt Water Depth (ft.): None Available				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 18', 178', 258', 298'				
Void(s) encountered (N/Y) Depth(s) N, N/A				
Producing formation Marcellus Pay Gas: Initial open flow MCF/d Oil: Initial open flow psig (surface pressure) Second producing formation Pay z Gas: Initial open flow MCF/d Oil: Initial open flow more producing formation Pay z Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow MCF/d Fi	zone depth (ft) 7 flow N/A B by N/A Bb Hours after Hour one depth (ft) flow B	7,063' TVD (T ol/d rs bl/d		MIII APR 22 P 1:50  MINING SENTAL PROTECTION
- I I I I I I I I I I I I I I I I I I I				2
Time of open flow between initial and final tests	Hours			2

all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

-

Were core samples taken? Yes	No X Were cuttings caugi	ht during drilling? Yes	No_X
Were Electrical, Mechanical or Geophys	ical logs recorded on this well? If yes, please li	ist_Yes- CBL	
This is a subsequent well. Antero only runs wireline logs on the fir	st well on a multi-well pad (Winnie Unit 2H API#47-033-05615). Please referen	ce the wireline logs submitted with Form WR	-35 for Winnie Unit 2H.
FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	PUT THE FOLLOWING: 1). DETAIL, PHYSICAL CHANGE, ETC. 2). THE WE RD OF THE TOPS AND BOTTOMS OF TELLBORE FROM SURFACE TO TOTAL.	LL LOG WHICH IS A S F ALL FORMATIONS.	YSTEMATIC
Perforated Intervals, Fracturing, or Stimu	alating:		
Perforations: 7,225' - 17,134' MD	·		
Frac'd w/ 15,120 gals 15% HCL A	Acid, 209,022 bbls Slick Water carrying	g 1,023,180# 100 mes	sh,
4,004,673# 40/70 sand and 2,447	7,890# 20/40 sand.		
Plug Back Details Including Plug Type a	nd Depth(s): N/A		
Formations Encountered: Surface:	Top Depth /	Bottom	<u>Depth</u>
Big Lime	est 1748'	1056	
Big Injun	est 1748 est 1857'	1856' 2107'	
Gantz Sand	est 2108'	2223'	
Fifty Foot Sandstone	est 2224'	2329'	
Gordon	est 2330'	2564'	
Fifth Sandstone	est 2565'	2627'	
Bayard	est 2628'	3311'	
Speechley	est 3312'	3557'	
Balltown	est 3558'	4082'	
Bradford	est 4083'	4708'	
Benson	est 4709'	4923'	
Alexander	est 4924'	5064'	
Elk	est 5065'	5627'	
Rhinestreet	est 5628'	6448'	
Sycamore	est 6449'	6688'	
Middlesex	6689'	6855'	
Burket	6856'	6880'	
Tully	6881'	6995'	
Hamilton	6996'	7062'	
Marcellus	7063'	7099' T	VD

that the information is true, accurate, and complete.

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/1/13	
API#:	47-033-05612	

Farm name: Bowyer, Mathew E. and Lisa D.	Operator Well No.: Winnie Unit 1H			
LOCATION: Elevation: 1290'	Quadrangle: _	Vest Milford		<u></u>
District: Union	County: Harris	son		
Latitude: 8,936 Feet South of 39 Deg.			c.	<del></del>
Longitude 2,357' Feet West of 80 Deg.	27Min.	. <u>30</u> See	<b>c.</b>	
Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	340'	340'	472 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2640'	2,640'	1002 Cu. Ft. Class A
Date Permit Issued: 6/26/2012	5-1/2" 20#	15,995'	15,995'	4006 Cu. Ft. Class H
Date Well Work Commenced: 6/30/2012				
Date Well Work Completed: 1/6/2013	2-3/8" 4.7#	7,405'		
Verbal Plugging: N/A				
Date Permission granted on: N/A			2	. 0
Rotary Cable Rig		· · · · · · · ·	EHVIR	
Total Vertical Depth (ft): 7135' TVD (deepest po	nt drilled)		=======================================	OFFICE 2013 APR
Total Measured Depth (ft): 15,995' MD, 7083' TVI	(BHL)			2 46
Fresh Water Depth (ft.): 180'			7	7 0
Salt Water Depth (ft.): None available			7	<del>10</del> <del>20</del>
Is coal being mined in area (N/Y)? N				9 - 8
Coal Depths (ft.): 18', 178', 258', 298'				5 6
Void(s) encountered (N/Y) Depth(s) N, N/A		<del>,</del> .		
OPEN FLOW DATA (If more than two producing formatio	ns please includ	le additional d	ata on separate s	heet)
	one depth (ft) <u>7</u>		o)	
Gas: Initial open flow MCF/d Oil: Initial open flo	<del></del>			
Final open flow 9,251 MCF/d Final open flow		l/d		
Time of open flow between initial and final tests N/A  Static rock Pressure 3600 psig (surface pressure) aft	Hours	_		
psig (surface pressure) and	terHour	S		
	e depth (ft)	<del></del>		
Gas: Initial open flowBbl/d				
Final open flow MCF/d Final open flow		/d		
Time of open flow between initial and final tests  Static rock Pressure psig (surface pressure) aft	Hours			
Static rock Pressurepsig (surface pressure) aft	erHour	S		
I certify under penalty of law that I have personally examined a all the attachments and that, based on my inquiry of those indiv	nd am familiar iduals immedia	with the inform	nation submitted e for obtaining t	on this document and he information I believ

Were core samples taken? Yes	No Were cuttings caug	ht during drilling? Yes X No
Were Flectrical Mechanical or Geonby	sical logs recorded on this well? If yes, please l	:Yes- CBI
This is a subsequent well. Antero only runs wireline logs on the	first well on a multi-well pad (Winnie Unit 2H API#47-033-05815). Please referer	IST
		The state of the s
FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO	PUT THE FOLLOWING: 1). DETAIL G, PHYSICAL CHANGE, ETC. 2). THE WE DRD OF THE TOPS AND BOTTOMS OF WELLBORE FROM SURFACE TO TOTAL	CLL LOG WHICH IS A SYSTEMATION ALL FORMATIONS. INCLUDING
Perforated Intervals, Fracturing, or Stim	ulating:	
Perforations: 7,500' - 15,929' ME	<del></del>	
Frac'd w/ 13,146 gals 15% HCL	Acid, 179,088 bbls Slick Water carrying	g 899,166# 100 mesh,
3,473,254# 40/70 sand and 2,05	8,071# 20/40 sand.	
Plug Back Details Including Plug Type	and Depth(s): N/A	
Formations Encountered:	To David	
Surface:	Top Depth /	Bottom Depth
Big Lime	est 1748'	1856'
Big Injun	est 1857'	2107'
Gantz Sand	est 2108'	2223'
Fifty Foot Sandstone	est 2224'	2329'
Gordon	est 2330'	252 <del>3</del> 2564'
Fifth Sandstone	est 2565'	2627'
Bayard	est 2628'	3311'
Speechley	est 3312'	3557'
Balltown	est 3558'	4082'
Bradford	est 4083'	4708'
Benson	est 4709'	4923'
Alexander	est 4924'	5064'
Elk	est 5065'	5627'
Rhinestreet	est 5628'	
Sycamore	6473'	6472'
Middlesex	6733'	6732'
Burket	6900'	6899'
Tully	6927'	6926' 7042'
Hamilton	7043'	
Marcellus	7043 7110'	7109'
	, TTA	7135' TVD

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/2/13
API #:	47-033-05615

arm name: Bowyer, Mathew E. and Lisa D.	Operator Well	No.: Winnie Ur	nit 2H	<del></del>
OCATION: Elevation: 1290'	Quadrangle: West Milford			
District: Union	County: Harris	on		
Latitude: 8,944' Feet South of 39 Deg.			c.	
Longitude 2,350' Feet West of 80 Deg	. <u>27</u> Min.	30 Se	c.	
Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	330'	330'	458 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2446'	2446'	996 Cu. Ft. Class A
Date Permit Issued: 6/28/2012	5-1/2" 20#	15,753'	15,753'	3944 Cu. Ft. Class H
Date Well Work Commenced: 6/30/2012				
Date Well Work Completed: 1/13/2013	2-3/8" 4.7#	7,328'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7143' TVD(deepest point drilled				
Total Measured Depth (ft): 7,058' TVD, 15,753' MD (BHL	)			
Fresh Water Depth (ft.): 180'				
Salt Water Depth (ft.): None available				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 18', 178', 258', 298'				
Void(s) encountered (N/Y) Depth(s) N, N/A				일 일
Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow 9,090 MCF/d Final open flow Time of open flow between initial and final tests N/A Static rock Pressure 3600 psig (surface pressure) a Second producing formation Pay zero.	zone depth (ft) 7 flow N/A Bt w N/A Bb Hours fter Hour	<mark>,092' TV</mark> D (To bl/d l/d rs	ata on separate :	55-1 II T
Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow		ol/d 1/d		
Time of open flow between initial and final tests				
Static rock Pressure psig (surface pressure) a				

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Dat

Were core samples taken? Yes	No_X Were cuttings caugh	t during drilling? Yes X No
Were Electrical, Mechanical or Geophysiand Photo Density / Compensated Neutron / Gamma Ra	ical logs recorded on this well? If yes, please lis	Yes- CBL, Dual Laterolog / Gamma Ray,
FRACTURING OR STIMULATING, DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	PUT THE FOLLOWING: 1). DETAILS, PHYSICAL CHANGE, ETC. 2). THE WEIRD OF THE TOPS AND BOTTOMS OF ELLBORE FROM SURFACE TO TOTAL I	LL LOG WHICH IS A SYSTEMATIC ALL FORMATIONS, INCLUDING
Perforated Intervals, Fracturing, or Stimu	lating:	
Perforations: 7,319' - 15,687' MD	(1,800 holes)	
Frac'd w/ 13,104 gals 15% HCL A	cid, 177,773 bbls Slick Water carrying	899,820# 100 mesh,
3,419,595# 40/70 sand and 2,038		
<del></del>	<u>,                                      </u>	
Plug Back Details Including Plug Type a	nd Depth(s): NI/A	
	1474	
Formations Encountered: Surface:	Top Depth /	Bottom Depth
Big Lime	1748'	1056
Big Injun	1746 1857'	1856' 2107'
Santz Sand	2108'	2223'
Fifty Foot Sandstone	2224'	2329'
Gordon	2330'	2564'
ifth Sandstone	2565'	2627'
Bayard	2628'	3311'
peechley	3312'	3557'
Balltown	3558'	4082'
Bradford	4083'	4708'
Benson	4709'	4923'
Alexander	4924'	5064'
ik	5065'	5627'
Rhinestreet	5628'	6448'
Sycamore	6449'	6710'
Middlesex	6711'	6879'
Burket	6880'	6906'
Tully	6907'	7019'
lamilton	7020'	7091'
Marcellus	7092'	7143' TVD

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/2/13
API#:	47-017-06096

Farm name: Coastal Forest Resour	rces	Opera	tor Well No.: H	leirs Unit 2H	
LOCATION: Elevation: 1,110	·	Quadra	angle: New Milto	on 7.5'	
District: New Milton		Count	y: Doddrodge		
Latitude: 8,732	Feet South of 39	Deg. 12	Min. 30	Sec.	
Longitude 2,215	Feet West of 80	Deg. 40	Min. 00	Sec.	
				<del></del>	

Antero Resources Appalachian Corp Company: Casing & Used in Left in well Cement fill 1625 17th Street Address: **Tubing** drilling up Cu. Ft. Denver, CO 80202 20" 94# 40' 40' 38 Cu. Ft. Class A **CT Corporation System** 13-3/8" 48# 415' 577 Cu. Ft. Class A 415' Inspector: Douglas Newlon 9-5/8" 36# 2,540' 2.540' 1034 Cu. Ft. Class A Date Permit Issued: 7/31/2012 5-1/2" 20# 14,507' 14,507' 3573 Cu. Ft. Class H 8/14/2012 Date Well Work Commenced: 12/8/2012 2-3/8" 4.7# 7,274' Date Well Work Completed: N/A Verbal Plugging: N/A Date Permission granted on: Rotary 🗸 Cable Rig Total Vertical Depth (ft): 7136' TVD (deepest point drilled) Total Measured Depth (ft): 14,507' MD, 7131' TVD (BHL) Fresh Water Depth (ft.): est. 169' est. 642', 895' Salt Water Depth (ft.): Is coal being mined in area (N/Y)? N

OPEN FLOW DATA (If more than two producing formations please include additional data on separate shee	t)
Producing formation Marcellus Pay zone depth (ft) 7037' TVD (Top)	
Gas: Initial open flow MCF/d Oil: Initial open flow N/A Bbl/d	
Final open flow 9,933 MCF/d Final open flow N/A Bbl/d April 23	L. 2019
Time of open flow between initial and final tests N/A Hours	
Gas: Initial open flowMCF/d Oil: Initial open flow N/ABbl/d Final open flow 9,933MCF/d Final open flow N/ABbl/d Time of open flow between initial and final tests N/AHours Static rock Pressure 3950psig (surface pressure) afterHours  Second producing formation Pay zone depth (ft)   Constitution of the confidence of the confi	by
Second producing formation Pay zone depth (ft) The office of	0011.1
Gas: Initial onen flow MC F/a Oil: Initial onen flow Rhi/a	
Final open flow MCF/d Final open flow Bbl/d	
Time of open flow between initial and final tests Hours	
Static rock Pressurepsig (surface pressure) afterHours	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

Coal Depths (ft.): 240', 280', 320', 455', 655' Void(s) encountered (N/Y) Depth(s) N, N/A

4/1913

Were core samples taken? Yes	_ No_X Were cuttings cau	ght during drilling? Yes X No
Were Electrical, Mechanical or Geoph	ysical logs recorded on this well? If yes, please the first well on a multi-well pad (Heirs Unit 1H API#47-017-06099). Please refe	list Yes- CBL
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATIN DETAILED GEOLOGICAL REC	W PUT THE FOLLOWING: 1). DETAI IG, PHYSICAL CHANGE, ETC. 2). THE W CORD OF THE TOPS AND BOTTOMS ( WELLBORE FROM SURFACE TO TOTAL	LS OF PERFORATED INTERVALS ELL LOG WHICH IS A SYSTEMATIO OF ALL FORMATIONS, INCLUDING
Perforated Intervals, Fracturing, or Stin	mulating:	
Perforations: 7,522' - 14,441' M	<del></del>	
Frac'd w/ 10,584 gals 15% HCL	Acid, 144,665 bbls Slick Water carrying	ng 728,713# 100 mesh,
2,794,524# 40/70 sand and 1,5	55,070# 20/40 sand.	
Plug Back Details Including Plug Type	and Depth(s): N/A	
Formations Encountered: Surface:	Top Depth /	Bottom Depth
Big Lime	est. 2110'	2196'
Sig Injun	est. 2197'	2446'
Santz Sand	est. 2447'	2626'
ifty Foot Sandstone	est. 2627'	2833'
Gordon	est. 2834'	3183'
ifth Sandstone	. 04041	
iitii ballastolic	est. 3184'	4012'
	est. 3184 <sup>-</sup> est. 4013'	4012' 4653'
Balltown		
Balltown Bradford	est. 4013'	4653' 5116'
alltown Bradford Benson	est. 4013' est. 4654'	4653'
salltown sradford senson slexander	est. 4013' est. 4654' est. 5117'	4653' 5116' 5364'
alltown radford enson llexander ycamore	est. 4013' est. 4654' est. 5117' est. 5365'	4653' 5116' 5364' 6620'
salltown Fradford Senson Alexander Ycamore Middlesex	est. 4013' est. 4654' est. 5117' est. 5365' 6621'	4653' 5116' 5364' 6620' 6678'
salltown sradford senson slexander sycamore Aiddlesex onyea	est. 4013' est. 4654' est. 5117' est. 5365' 6621' 6779'	4653' 5116' 5364' 6620' 6678' 6780'
salltown sradford senson slexander sycamore Aiddlesex onyea surket	est. 4013' est. 4654' est. 5117' est. 5365' 6621' 6779'	4653' 5116' 5364' 6620' 6678' 6780' 6919'
Balltown Bradford Benson Alexander Sycamore Middlesex Bonyea Burket Fully Hamilton	est. 4013' est. 4654' est. 5117' est. 5365' 6621' 6779' 6781'	4653' 5116' 5364' 6620' 6678' 6780' 6919'



# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/2/13
API #:	47-017-06099

m name: Coastal Forest Rescurces	_ Operator Well	No.: Heirs Onit	<u> </u>	
CATION: Elevation: 1,110'	_ Quadrangle: <u>^</u>	lew Milton 7.5'		
District: New Milton	County: Doddridge			
Latitude: 8,739' Feet South of 39 Deg				<del></del>
Longitude 2,223 Feet West of 80 Deg	g. <u>40</u> Min.	00 Sec	3.	
Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	418'	418'	481 Cu. Ft. Class A
Inspector: Douglas Newlon	9-5/8" 36#	2,515'	2,515'	1024 Cu. Ft. Class A
Date Permit Issued: 6/12/2012	5-1/2" 20#	13,830'	13,830'	3394 Cu. Ft. Class H
Date Well Work Commenced: 8/13/2012				
Date Well Work Completed: 12/3/2012	2-3/8" 4.7#	7,151'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7131' TVD (deepest per	oint drilled)			
Total Measured Depth (ft): 13,830' MD, 7120' TV	D (BHL)			
Fresh Water Depth (ft.): est.169'				
Salt Water Depth (ft.): est. 642', 895'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 240', 280', 320', 455', 655'				
Void(s) encountered (N/Y) Depth(s) N, N/A				
	one depth (ft)Bb_wBb	s 	ata on separaters	MIJ APR 22 P 1: 49
Time of open flow between initial and final testsHours				
Static rock Pressurepsig (surface pressure) a	ifterHour	S	•	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

Were core samples taken? Yes_	No X Were cutting	gs caught during drilling? Yes X No		
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes-CBL, Photo Density/Compensated Neutron/Gemma Ray, Dual Laterolog/Gemma Ray				
FRACTURING OR STIMULAT DETAILED GEOLOGICAL R	ΓING, PHYSICAL CHANGE, ETC. 2). ΤΕ	ETAILS OF PERFORATED INTERVALS, HE WELL LOG WHICH IS A SYSTEMATIC MS OF ALL FORMATIONS, INCLUDING OTAL DEPTH.		
Perforated Intervals, Fracturing, or	Stimulating:			
Perforations: 7,181' - 13,764	MD (1,368 holes)			
Frac'd w/ 12,096 gals 15% H	CL Acid, 139,262 bbls Slick Water ca	arrying 609,599# 100 mesh,		
2,456,579# 40/70 sand and	1,324,505# 20/40 sand.			
-				
Plug Back Details Including Plug T	ype and Depth(s): Ν/Δ			
Formations Encountered: Surface:	Top Depth	/ Bottom Depth		
	2440	24051		
Big Lime Big Injun	2110' 2197'	2196'		
Gantz Sand	2197 2447'	2446'		
Fifty Foot Sandstone	2627'	2626' 2833'		
Gordon	2834'	2655 3183'		
Fifth Sandstone	3184'	4012'		
Balltown	4013'			
Bradford	4654'	4653'		
Benson	5117'	5116'		
		5364'		
Alexander Sycamore	5365' 6616'	6615'		
Sycamore Middlesex	6772'	6771'		
		6774'		
Sonyea Burket	6775'	6910'		
	6911'	6944'		
Tully	6945'	7020'		
Hamilton	7021'	7029'		
Marcellus	7030'	7131' TVD		

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/2/13
API#:	47-033-05636

	a optimion by topolit of work work
Farm name: Bowyer, Matthew E. & Lisa D.	Operator Well No.: Dawson Unit 2H
LOCATION: Elevation: 1,290'	Quadrangle: West Milford

District: Union County: Harrison Latitude: 8,922 Feet South of 39 Min. 30 Deg. 12 Sec. Min. 30 Longitude 2,371' Deg. 27 Feet West of 80 Sec.

Antero Resources Appalachian Corp

Company: Aftero Resources Apparachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	375'	375'	521 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2,520'	2,520'	1026 Cu. Ft. Class A
Date Permit Issued: 7/11/2012	5-1/2" 20#	17,540'	17,540'	4412 Cu. Ft. Class H
Date Well Work Commenced: 9/30/2012				
Date Well Work Completed: 2/1/2013	2-3/8" 4.7#	7,266'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7095' TVD (deepest poi	·			
Total Measured Depth (ft): 17,540' MD, 7057' TVI	(BHL)			
Fresh Water Depth (ft.): 180'				
Salt Water Depth (ft.): None Available				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 18', 178', 258', 298'				
Void(s) encountered (N/Y) Depth(s) N, N/A				

0	PEN FLOW DATA (If more t	han two pr	oducing formations pl	ease include additio	nal data on separate	sheet)		
	Producing formation Marcellu	s	Pay zone o	lepth (ft <u>)</u>	'D (Top)		= !	유
	Gas: Initial open flow	_MCF/d C	Dil: Initial open flow N	'ABbl/d		<u>.</u> 0:€	=	Ĭ
	Final open flow 7.601	_MCF/d	Final open flow N/A	Bbl/d			APR	品品
	Time of open flow between	n initial ar	nd final tests N/A	Hours			_	000
	Static rock Pressure 3600	_psig (sur	face pressure) after	Hours			22	SEIV PEIV
						705	T	% [2]
	Second producing formation_		Pay zone de	oth (ft)		경독	U	کہ رے
	Gas: Initial open flow	_MCF/d C	Dil: Initial open flow_	Bbl/d		FROTEC		0
	Final open flow	_MCF/d	Final open flow	Bbl/d		CT	10	GAS
	Time of open flow between	n initial ar	nd final tests	Hours		MOIT	0	
	Static rock Pressure	psig (sur	face pressure) after	Hours				

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Were core samples taken? Yes	No X Were cuttings caugh	t during drilling? YesNo_X
Were Electrical, Mechanical or Geophys	sical logs recorded on this well? If yes, please li	st Yes- CBL
This is a subsequent well. Antero only runs wireline logs on the fi	rst well on a multi-well pad (Winnie Unit 2H API#47-033-05615). Please reference	se the wireline logs submitted with Form WR-35 for Winnie Unit 2H.
FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO	PUT THE FOLLOWING: 1). DETAILS S, PHYSICAL CHANGE, ETC. 2). THE WE DRD OF THE TOPS AND BOTTOMS OF VELLBORE FROM SURFACE TO TOTAL	LL LOG WHICH IS A SYSTEMATIC ALL FORMATIONS, INCLUDING
Perforated Intervals, Fracturing, or Stime	ulating:	
Perforations: 7,267' - 17,474' MD		
Frac'd w/ 15,624 gals 15% HCL /	Acid, 216,362 bbls Slick Water carrying	, 1,116,371# 100 mesh,
4,227,228# 40/70 sand and 2,47	1,790# 20/40 sand.	
Plug Back Details Including Plug Type a	and Depth(s): N/A	
Formations Encountered:	Top Depth /	Bottom Depth
Surface:	oct 1740!	1956
Big Lime Big Injun	est 1748' est 1857'	1856' 2107'
Gantz Sand	est 2108'	2223'
Fifty Foot Sandstone	est 2224'	2329'
Gordon	est 2330'	2564'
Fifth Sandstone	est 2565'	2627'
Bayard	est 2628'	3311'
Speechley	est 3312'	3557'
Balltown	est 3558'	4082'
Bradford	est 4083'	4708'
Benson	est 4709'	4923'
Alexander	est 4924'	5064'
Elk	est 5065'	5627'
Rhinestreet	est 5628'	6448'
Sycamore	est 6449'	6710'
Middlesex	est 6711'	6838'
Burket	6839'	6865'
Tully	6866'	6977'
Hamilton	6978'	7043'
Marcellus	7044'	7095' TVD

### State of West Virginia Department of Environmental Protection Office of Oil and Gas

DATE:	4/22/13
API#:	47-033-05631

Well Operator's Report of Well Work

Farm name: Yeager, Charles E. Operator Well No.: George Unit 1H				
LOCATION: Elevation: 1350'	TON: Elevation: 1350' Quadrangle: West Milford			
District: Union	County: Harris	on		
Latitude: 5,117' Feet South of 39 Deg.			>.	
Longitude 9,690' Feet West of 80 Deg.	27 Min.	30 Sec	<b>.</b>	
Company Antero Resources Appalachian Corp				
Company: Antero Resources Apparachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	352'	352'	489 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2,538'	2,538'	1033 Cu. Ft. Class A
Date Permit Issued: 6/6/2012	5-1/2" 20#	16,426'	16,426'	4098 Cu. Ft. Class H
Date Well Work Commenced: 10/17/12				
Date Well Work Completed: 2/19/13	2-3/8" 4.7#	7384'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7242' TVD				
Total Measured Depth (ft): 16,426' MD			· ,	
Fresh Water Depth (ft.): 103'				
Salt Water Depth (ft.): None reported off this pad				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 178', 257', 295'				
Void(s) encountered (N/Y) Depth(s) N, N/A				
Gas: Initial open flow MCF/d Oil: Initial open fl	cone depth (ft).7 ow_N/AE	7,120' TVD (To	-	sheet)
Final open flow 13,780 MCF/d Final open flow		l/d		Received
Time of open flow between initial and final tests N/A Static rock Pressure 3600 psig (surface pressure) af	Hours	re		Office of Oil & Gas
psig (surface pressure) ar	.c10u	,		MAY - 7 2013
Second producing formation Pay zon	• • •			2013
Gas: Initial open flow MCF/d Oil: Initial open fl		bl/d		
Final open flow MCF/d Final open flow				_
Time of open flow between initial and final tests				*
Static rock Pressurepsig (surface pressure) af	terHou	rs		
I certify under penalty of law that I have personally examined	and am familiar	with the infor	mation submitte	d on this document and

all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Were core samples taken? Yes	No Were	cuttings caught during drilling?	Yes No
Were Electrical, Mechanical or Geophys	ical loos recorded on this well? I	fves please list Yes- CBL	
This is a subsequent well. Antero only runs wireline logs on the fir	st well on a multi-well pad (Stutler Unit 1H AP#47-033	-05586). Please reference the wireline logs submitte	od with Form WR-35 for Stutler Unit 1H.
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	, PHYSICAL CHANGE, ETC. RD OF THE TOPS AND BO	2). THE WELL LOG WHIC OTTOMS OF ALL FORMA	TH IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimu	ılating:		
Perforations: 7501' - 16,363' MD	(1,656 holes)		
Frac'd w/ 12,000 gals 15% HCL A	cid, 236,278 bbls Slick Wa	ater carrying 1,435,550# 1	100 mesh,
5,121,340# 40/70 sand and 3,098	3,190# 20/40 sand.		
Plug Back Details Including Plug Type a	nd Depth(s): N/A		
Formations Encountered: Surface:	Top Depth		Bottom Depth
Surface: Fifth Sandstone	est. 2649'		2699'
Bayard	est. 2700'		3345'
Speechley	est. 3346'		3592'
Balltown	est. 3593'		4098'
Bradford	est. 4099'		4672'
Benson	est. 4673'		4870'
Alexander	est. 4871'		5060'
Elk	est. 5061'		6488'
Sycamore	6489'		6912'
Burket	6913'		6937'
Tully	6938'		7052'
Hamilton	7053'		7119'
Marcellus	7120'		7242' TVD
•			Received
		(	Office of Oil & Gas



that the information is true, accurate, and complete.

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/2/13
API#:	47-085-09960

ATION: Elevation: 1142'	_ Quadrangle: P	ullman 7.5'		
District: Union	County: Ritchie	•		
Latitude: 2,875 Feet South of 39 Deg	. <u>12</u> Min.		c.	<del></del>
Longitude 4,704 Feet West of 80 Deg	g. <u>52</u> Min.	30 Se	c.	
Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft Class A
Agent: CT Corporation System	13-3/8" 54.5#	334'	334'	464 Cu. Ft. Class A
Inspector: Sam Ward	9-5/8" 36#	2560'	2560'	1042 Cu. Ft. Class A
Date Permit Issued: 5/29/2012	5-1/2" 20#	13,929'	13,929'	3399 Cu. Ft. Class H
Date Well Work Commenced: 7/13/2012				
Date Well Work Completed: 9/21/2012	2-3/8" 4.7#	6816'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 6,630' TVD (deepest p	odint drilled)			
Total Measured Depth (ft): 6621' TVD, 13,929' MD	(BHL)			
Fresh Water Depth (ft.): 85'				
Salt Water Depth (ft.): None				
Is coal being mined in area (N/Y)? No			m	
Coal Depths (ft.): No coal layers oberved			VIRONNE	20 F F
Void(s) encountered (N/Y) Depth(s) No, N/A			NON	AR CE
PEN FLOW DATA (If more than two producing formation N/A- Waiting on Pipeline Pay Gas: Initial open flow MCF/d Oil: Initial open Final open flow MCF/d Final open flow Time of open flow between initial and final tests N/A Static rock Pressure psig (surface pressure) a	zone depth (ft)_ flow N/A Bbl w N/A Bbl Hours	nl/d //d	lata on separates	R 22 P 1:50
Second producing formation Pay ze	one depth (ft)	<del></del>		
Gas: Initial open flow MCF/d Oil: Initial open				
Final open flow MCF/d Final open flo  Time of open flow between initial and final tests		/d		
Static rock Pressure psig (surface pressure) a		•		

Were core samples taken? Yes	No_X Were	e cuttings caught during drilling? Yes X	_No
Were Electrical, Mechanical or Geophysi Photo Density/Compensated Neutron/Gamma Ray	ical logs recorded on this well?	If yes, please list Yes – CBL, Dual Laterolog/Gam	ıma Ray, and
FRACTURING OR STIMULATING	, PHYSICAL CHANGE, ETC. RD OF THE TOPS AND BO	1). DETAILS OF PERFORATED IN . 2). THE WELL LOG WHICH IS A SYS OTTOMS OF ALL FORMATIONS, IN TO TOTAL DEPTH.	STEMATIC
Perforated Intervals, Fracturing, or Stimu	•		
Perforations: 6,812 - 13,863' MD	( 1,488 holes)		
Frac'd w/ 13,500 gals 15% HCL A	cid, 146,592 bbls Slick Wa	ater carrying 736,700# 100 mesh,	
2,650,200# 40/70 and 1,459,500#	20/40 sand.	,	
N. D. I. D. A. I. I. J. J. B. T.	15 (1)		
Plug Back Details Including Plug Type a	nd Depth(s): N/A		
Formations Encountered:	Top Depth	/ Bottom De	<u>pth</u>
Surface:			
Big Lime	2,115'	2,178'	
Big Injun	2,179'	2,462'	
Gantz Sand	2,463'	2,597'	
Fifty Foot Sand	2,598'	2,709'	
Gordon	2,710'	2,084'	
Fifth Sandstone	3,085'	3,191'	
Bayard	3,192'	3,961'	
Speechley	3,962'	4,165'	
Balltown	4,166'	4,636'	
Bradford	4,637'	5,027'	
Benson	5,028'	5,268'	
Alexander	5,269'	5,467'	
Elk	5,468'	5,815'	
Rhinestreet	5,816'	6,240'	
Sycamore	6,241'	6,410'	
Middlesex	6,411'	6,522'	
Burket	6,523'	6,555'	
Γully	6,556'	6,576'	
Marcellus	6,577'	6,630' TVD	)
· · · · · · · · · · · · · · · · · · ·	3,2	3,000 110	•

DATE: 5/16/13

API#: 47-105-01365

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

### Well Operator's Report of Well Work

Farm name:Blumig Family Associates_	Oper	rator Well No.:_	HR 491	
LOCATION: Elevation:1110'	Quad	irangle:	_Reedy WV 7.:	5'
District: Spring Creek	Cou	ntv:	Wirt	
District:Spring Creek_ Latitude: 2946'Feet South of 38De	eg. 55 M	in. 00 Sec.		
Longitude_581'_Feet West of 81	Deg. 22 Min.	30 Sec.		
Company:Hard Rock Exploration				
	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 1244 Martins Branch Road				
Charleston WV, 25312				
Agent: Marc Scholl	13 3/8"	33'	33'	N/A
Inspector: Joe Taylor	9 5/8"	969'	969'	492ft3 CTS
Date Permit Issued: 12/21/12	7"	2741'	2741'	586ft3 CTS
Date Well Work Commenced: 2/7/13	4.5"	8056'	8056'	130 ft3
Date Well Work Completed: 3/17/13				
Verbal Plugging:	Gamma Log	from (3990' MI	, 4910'TVD)	KOP-4045'
Date Permission granted on:	Ran Gyro I	EORIVEE	Surface)	
Rotary x Cable Rig				
Total Depth (feet): 8213'TMD, 4649'TVD		<del>p of Oll &amp;</del>	Jas	
Fresh Water Depth (ft.): None		0 0		
	M	AY 20 2013		
Salt Water Depth (ft.): 1550', 2088'				
	\ΛΛ/ Γ	epartme	nt of	
Is coal being mined in area (N/Y)? N	Covirons	repertition	tootion	
Coal Depths (ft.): N/A	TELIAIIOIII	<del>nental Pro</del>	nection	
OPEN FLOW DATA		•		•
Producing formationLower Huron_Sh	nalePay zone		56'MD- 8213'. 354'TVD – 46	
Gas: Initial open flow Trace MCF/d Oi	il: Initial open f	low Bb	1/d	
Final open flow >2 MMCF/d F	•			
Time of open flow between initial and	final tests	72 Hc	ours	
Static rock Pressure psig (surfa				
puig (barr	ico prossuro, un			
Second producing formation	Pay zor	ne depth (ft)		
	l: Initial open fl		Bbl/d	
	Final open flow		bl/d	
Time of open flow between initial and	-			
Static rock Pressurepsig (surfa				
NOTE: ON BACK OF THIS FORM PUT THE INTERVALS, FRACTURING OR STIMULATION OF THE LOG WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE Signed:  By: President Date: /5/17/2013	NG, PHYSICA GEOLOGICA	L CHANGE, E	TC. 2). THE WI	ELL
Dar:/3/1//4U13				

105-01365

Formation:	Top:	Bottom:
Soil/Sand/Shale	0	1960
Salt Sand	1960	2170
Big Lime	2170	2225
Big Injun	2225	2260
Dev. Shale	2260	2660
Coffee Shale	2660	2675
Devonian Shale	2675	4649
Lower Huron Section	4459	4649

#### All depths shown As TVD

#### 2/17/13

Run casing with 16 stage Peake Completion open hole mechanical packer system with Total of 180jts of R-3 4.5" 11.6ppf M-80 to depth of 8056'kb. Could not get last two jts in hole due to stacking out again. Land casing hanger in head and ND BOP. MIRU Nabors Packer set crew. Pump 3 bbl water, and drop ball for shoe and 5 bbl water. Follow with N2 at 6-7k scf/min. Land ball and pressure up to 3150 psi with 143k scf N2 and hold pressure for packer operation. Pump 5 bbls cmt at 15 ppg and let air balance out. Pump 10 bbl cmt at 15 ppg and wait for air. Finish with 7 bbl cmt and 2-3 bbl water. Pumped total of 100sx type 1 3% CaCl

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVES SERVE AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

### RECEIVED Affice of Oil & Gas

MAY 20 2013

WV Department of Environmental Protection

Stage	Sleeve	Sleeve ID	Ball Size	Packer
1	8056.00	P/O Shoe	N/A	7870.80
2	7734.52	1.156	1.250	7643.77
3	7507.59	1.281	1.375	7411.24
4	7275.06	1.406	1.500	7179.21
5	7043.03	1.531	1.625	6946.88
6	6810.60	1.656	1.750	6714.45
7	6578.27	1.781	1.875	6482.12
8	6345.94	1.906	2.000	6249.79
9	6113.61	2.031	2.125	6017.46
n 10	5881.68	2.156	2.250	5785.43
11	5649.15	2.281	2.375	5553.00
12	5417.42	2.531	2.750	5321.27
13	5185.69	2.781	3.000	5099.04
14	4962.66	3.031	3.250	4832.11
15	4695.83	3.281	3.500	4599.58
16	4463.10	3.531	3.750	4366.95
Anchor				2906.60

03/13/13 MIRU Nabors. Start pumping at 25k scf/min and open Stg 1 shoe at 4435 psi. Continue to up rate and pump total of 1MM scf N2. Shut down (5min – 1806psi). Drop 1.25" ball for Stg 2. Start pumping ball down at 25k scf/min. Land ball at 163k scf. Up rate and open sleeve at 4010 psi. Up rate and pump total of 1MM scf N2. Shut down and change out high volumes. Load and drop 1.375" ball for Stg 3. Start pumping at 25k scf/min and land ball at 113k scf. Up rate and open sleeve at 3760 psi. Continue to increase rate and pump total of 1MM scf N2. Shut down and drop 1.5" ball for Stg 4. Repeat process for Stgs 4-Stg 16. (treatment Data on Pg. 3)

105-01365

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8
Max P	<u>5880</u>	<u>5700</u>	<u>5897</u>	<u>5775</u>	<u>5723</u>	<u>5760</u>	5802	5889
Avg P	<u>5834</u>	<u>5530</u>	5763	<u>5622</u>	<u>5692</u>	5700	<u>5713</u>	5812
Max R	<u>89.0</u>	<u>89.0</u>	103.9	104.7	107.4	107.0	103.5	100.0
Avg R	<u>87.7</u>	<u>87.7</u>	100.0	<u>103.6</u>	106.6	106.0	<u>102.0</u>	96.8
Shut In	1806-5min	N/A	2545-5min	1972-5min	N/A	N/A	2226-5min	N/A
OHUL III	1 1000-21mm	1 24/27	45 15 511III	1272 211111	1.11/12	<u> </u>	ZZZO JIIII	TAN
Shut m						T		
	Stage 9 5598	Stage 10 5194	Stage 11 4880	Stage 12  5239	Stage 13 4881	Stage 14 5371	Stage 15	Stage 16
Max P	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14		
Max P Avg P	Stage 9 5598	Stage 10 5194	Stage 11 4880	Stage 12 5239	Stage 13 4881	Stage 14 5371	Stage 15 4180	Stage 16 3642
Max P Avg P Max R Avg R	Stage 9 5598 5525	Stage 10 5194 5158	Stage 11 4880 4769	Stage 12 5239 5154	Stage 13 4881 4696	Stage 14 5371 5293	Stage 15 4180 4045	Stage 16 3642 3628

## RECEIVED Office of Oil & Gas

MAY 20 2013

WV Department of Environmental Protection WR-35 Rev (5-01) DATE: 5/16/13

API#: 47-105-01366

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

### Well Operator's Report of Well Work

Farm name:Olen Archer_	Oper	Operator Well No.:HR 478			
LOCATION: Elevation:695'	Quad	irangle:	_Reedy W	W 7.5'	
District: Spring Creek	Cou	nty:	Wirt		
District:Spring Creek_ Latitude: 14002'_Feet South of 38D	eg. 57 N	Min. 30 Se	 c.	<del></del>	
Longitude_2997'Feet West of81	Deg. 22 Mir	n. 30 Sec.			
Company:Hard Rock Exploration		_			
	Casing & Tubing	Used in drilling	Left in w	ell Cement fill up Cu. Ft.	
Address: 1244 Martins Branch Road					
Charleston WV, 25312	ļ				
Agent: Marc Scholl	13 3/8"	40'	40'	N/A	
Inspector: Joe Taylor	9 5/8"	546''	546'	294ft3 CTS	
Date Permit Issued: 12/21/12	7"	2325'	2325'	499ft3 CTS	
Date Well Work Commenced: 2/18/13	4.5"	7838'	7838'	65 ft3	
Date Well Work Completed: 4/12/13					
Verbal Plugging:	Gamma Log f	from (3545' MI	), 4235'T\	D) KOP-3660'	
Date Permission granted on:	Ran Gyro Log	g from (3549' -	Surface)		
Rotary x Cable Rig		RECEIV			
Total Depth (feet): 8534'TMD, 4242'TVD	Off	ice of Oil	& Gas		
Fresh Water Depth (ft.): 170'					
		MAY 20 2	113		
Salt Water Depth (ft.): 1640'			10		
	1		_		
Is coal being mined in area (N/Y)? N	W	Departm	ent of		
Is coal being mined in area (N/Y)? N  Coal Depths (ft.): N/A	Wv Enviro	Departm nmental F	ent of	on	
	Enviro	Departm nmental F	ent of rotecti	on	
Coal Depths (ft.):N/A	l Enviro	depth (ft) 38°	rotecti 77'MD-8:	on	
Coal Depths (ft.):N/A  OPEN FLOW DATA  Producing formationLower Huron_Sha	Enviro	hmental F depth (ft) 38'	rotecti 77'MD- 8: 865'TVD	on   534'MD	
OPEN FLOW DATA  Producing formation Lower Huron_Sha  Gas: Initial open flow 200 MCF/d Oil: 1	Environale_Pay zone	hmental F  depth (ft) 38' 33 wBbl/	rotecti 77°MD- 8: 865°TVD	on   534'MD	
Coal Depths (ft.):N/A	le_Pay zone nitial open flo	depth (ft) 38' wBbl/	rotecti 77'MD- 8: 865'TVD d 1/d	on   534'MD	
Coal Depths (ft.):N/A	lle_Pay zone nitial open flo nal open flow final tests	depth (ft) 38'  wBb1/6  24Ho	77'MD- 8: 865'TVD d 1/d purs	on   534'MD	
Coal Depths (ft.):N/A	lle_Pay zone nitial open flo nal open flow final tests	depth (ft) 38'  wBb1/6  24Ho	77'MD- 8: 865'TVD d 1/d purs	on   534'MD	
Coal Depths (ft.):N/A	le_Pay zone nitial open flo nal open flow final tests_ ee pressure) af	depth (ft) 38'  w Bbl/  Bb  24 Hoter Hour	77'MD- 8: 865'TVD d 1/d purs	on   534'MD	
Coal Depths (ft.):N/A	le_Pay zone nitial open flo nal open flow final tests_ ee pressure) af	depth (ft) 38'  w Bbl/  Bb  24 Hoter Hour	77'MD- 8: 865'TVD d 1/d purs	on   534'MD	
Coal Depths (ft.):N/A	le_Pay zone nitial open flo nal open flow final tests_ ee pressure) af	depth (ft) 38'  W Bbl/ Bb 24 Ho ter Hour ne depth (ft)	rotecti 77'MD- 8: 865'TVD d 1/d ours	on   534'MD	
Coal Depths (ft.):N/A	nitial open flow final tests e pressure) af  Pay zor Initial open flow inal open flow	depth (ft) 38'  W Bbl/ Bb 24 Ho ter Hour ne depth (ft)	77'MD- 8: 865'TVD d 1/d burs s Bb1/d b1/d	on   534'MD	
Coal Depths (ft.):N/A  OPEN FLOW DATA  Producing formationLower Huron_Shate Gas: Initial open flow 200 MCF/d Oil: I Final open flow >2MMCF/d Fine Time of open flow between initial and static rock Pressure psig (surface)  Second producing formation Gas: Initial open flow MCF/d Oil: Final open flow MCF/d Fine of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow	lle_Pay zone nitial open flow final tests_ ee pressure) af  Pay zor Initial open flow final open flow final tests_	depth (ft) 38'  wBbl/ Bb. 24Hour he depth (ft)_ owE Hour	77'MD- 8: 865'TVD d 1/d burs rs Bbl/d bl/d s	on   534'MD	
Coal Depths (ft.):N/A	lle_Pay zone nitial open flow final tests_ ee pressure) af  Pay zor Initial open flow final open flow final tests_	depth (ft) 38'  wBbl/ Bb. 24Hour he depth (ft)_ owE Hour	77'MD- 8: 865'TVD d 1/d burs rs Bbl/d bl/d s	on   534'MD	
Coal Depths (ft.):N/A  OPEN FLOW DATA  Producing formationLower Huron_Shate Gas: Initial open flow 200 MCF/d Oil: I Final open flow >2MMCF/d Fine Time of open flow between initial and static rock Pressure psig (surface)  Second producing formation Gas: Initial open flow MCF/d Oil: Final open flow MCF/d Fine of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow between initial and static rock Pressure Principle of open flow	e pressure) affinal tests  Pay zor  Pay zor  Initial open flow  inal tests  Pay zor  Initial open flow  inal open flow  inal tests  e pressure) affinal tests	depth (ft) 38'  w Bbl/ Bb 24 Ho ter Hour ne depth (ft) ow F Hour ter Hour	77'MD- 8: 865'TVD d l/d burs rs Bbl/d bl/d s urs	534'MD 4242' TVD	
Coal Depths (ft.):N/A  OPEN FLOW DATA  Producing formationLower Huron_Shate  Gas: Initial open flow 200 MCF/d Oil: I  Final open flow >2MMCF/d Fine Of open flow between initial and static rock Pressure psig (surface surface	le_Pay zone  nitial open flow al open flow final tests_ e pressure) af  Pay zon Initial open flow final open flow final tests_ e pressure) af  FOLLOWING: NG, PHYSICAL	depth (ft) 38'  w Bbl/ Bb  24 Ho  the depth (ft)  ow B  Hour  ter Hour  1) DETAILS ( L CHANGE, E	77'MD- 8: 865'TVD d l/d bl/d bl/d bl/d s urs OF PERFOR	On S34'MD  4242' TVD  RATED E WELL	
Coal Depths (ft.):N/A  OPEN FLOW DATA  Producing formationLower Huron_Shate  Gas: Initial open flow 200 MCF/d Oil: I  Final open flow >2MMCF/d Final open flow between initial and static rock Pressure psig (surface)  Second producing formation Gas: Initial open flow MCF/d Oil: Final open flow MCF/d Final open flow MCF/d Final open flow between initial and static rock Pressure psig (surface)  NOTE: ON BACK OF THIS FORM PUT THE INTERVALS, FRACTURING OR STIMULATING LOG WHICH IS A SYSTEMATIC DETAILED	le_Pay zone nitial open flow final tests_ ee pressure) affinal open flow final open flow final open flow final tests_ ee pressure) affinal open flow final tests_ ee pressure) afficultowing: GEOLLOWING: GEOLLOWING:	depth (ft) 38'  w Bbl/ Bb  24 Ho  the depth (ft)  ow B  Hour  ter Hour  1) DETAILS ( L CHANGE, E	77'MD- 8: 865'TVD d l/d bl/d bl/d bl/d s urs OF PERFOR	On S34'MD  4242' TVD  RATED E WELL	
Coal Depths (ft.):N/A  OPEN FLOW DATA  Producing formationLower Huron_Shate Gas: Initial open flow 200 MCF/d Oil: I Final open flow >2MMCF/d Fine Of open flow between initial and Static rock Pressure psig (surface Second producing formation Gas: Initial open flow MCF/d Oil: Final open flow MCF/d Fine Of open flow between initial and Static rock Pressure psig (surface NOTE: ON BACK OF THIS FORM PUT THE INTERVALS, FRACTURING OR STIMULATING UNITERVALS, FRACTURING OR STIMULATING OR WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE	le_Pay zone nitial open flow final tests_ ee pressure) affinal open flow final open flow final open flow final tests_ ee pressure) affinal open flow final tests_ ee pressure) afficultowing: GEOLLOWING: GEOLLOWING:	depth (ft) 38'  w Bbl/ Bb  24 Ho  the depth (ft)  ow B  Hour  ter Hour  1) DETAILS ( L CHANGE, E	77'MD- 8: 865'TVD d l/d bl/d bl/d bl/d s urs OF PERFOR	On S34'MD  4242' TVD  RATED E WELL	
OPEN FLOW DATA  Producing formationLower Huron_Shate Gas: Initial open flow200 MCF/d Oil: I Final open flow>2MMCF/d Final open flow between initial and static rock Pressurepsig (surface)  Second producing formation	le_Pay zone nitial open flow final tests_ ee pressure) affinal open flow final open flow final open flow final tests_ ee pressure) affinal open flow final tests_ ee pressure) afficultowing: GEOLLOWING: GEOLLOWING:	depth (ft) 38'  w Bbl/ Bb  24 Ho  the depth (ft)  ow B  Hour  ter Hour  1) DETAILS ( L CHANGE, E	77'MD- 8: 865'TVD d l/d bl/d bl/d bl/d s urs OF PERFOR	On S34'MD  4242' TVD  RATED E WELL	
Coal Depths (ft.):N/A  OPEN FLOW DATA  Producing formationLower Huron_Shate Gas: Initial open flow 200 MCF/d Oil: I Final open flow >2MMCF/d Fine Of open flow between initial and Static rock Pressure psig (surface Second producing formation Gas: Initial open flow MCF/d Oil: Final open flow MCF/d Fine Of open flow between initial and Static rock Pressure psig (surface NOTE: ON BACK OF THIS FORM PUT THE INTERVALS, FRACTURING OR STIMULATING UNITERVALS, FRACTURING OR STIMULATING OR WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE	le_Pay zone nitial open flow final tests_ ee pressure) affinal open flow final open flow final open flow final tests_ ee pressure) affinal open flow final tests_ ee pressure) afficultowing: GEOLLOWING: GEOLLOWING:	depth (ft) 38'  w Bbl/ Bb  24 Ho  the depth (ft)  ow B  Hour  ter Hour  1) DETAILS ( L CHANGE, E	77'MD- 8: 865'TVD d l/d bl/d bl/d bl/d s urs OF PERFOR	On S34'MD  4242' TVD  RATED E WELL	

Formation:	Top:	Bottom:
Soil/Sand/Shale	0	1586
Salt Sand	1586	1775
Big Lime	1775	1838
Big injun	1838	1902
Dev. Shale	1902	2245
Coffee Shale	2245	2260
Devonian Shale	2260	4242
<b>Lower Huron Section</b>	4020	4242

#### All depths shown As TVD

2/27/13 Run 17 stg Packers Plus open hole hydraulic set packers and mechanical sleeves and 174 jts of 4.5" 11.6ppf R-3 casing to depth of 7842' KB and string stacked out. Try to move jt pulled 150klbs up and lost 4' on way back down. Call out Weatherford to place slips and cut pipe. Land and cut pipe making total pipe ran 7838' KB. RU and pump3 bbl water ahead dropped 1.25" balls for shoe. Pump 5 bbl water behind and start pumping N2 at 5k scf/min. Land ball in shoe and pressure up at 7k scf/min with 128k scf N2 to 3000 psi. Packers shut off gas rate at 1800 psi. Hold 3000 psi for packer operation. Bleed pressure off. RU to perform annular squeeze. Pump 50sx type 1 3% CaCl mixed at 15ppg – pumped total of 10.5 bbls (5 bbls then allow air to escape – then additional 5.5 bbl). Follow cmt with 2-3 bbls water.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVES SERVE AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

Stage	Sleeve	Sleeve ID	Ball Size	Packer
1	7838.00	P/O Shoe	N/A	7692.24
2	7557.10	1.250	1.500	7460.50
3	7324.96	1.500	1.625	7186.46
4	7053.62	1.625	1.750	6912.92
5	6777.68	1.750	1.875	6681.08
6	6552.74	1.875	2.000	6412.04
7	6276.90	2.000	2.125	6180.90
8	6046.16	2.125	2.250	5949.66
9	5814.72	2.250	2.375	5674.12
10	, 5538.98	2.375	2.500	5442.48
11	5307.34	2.500	2.625	5166.64
12	5031.50	2.625	2.750	4891.80
13	4756.86	2.750	2.875	4661.06
14	4525.82	2.875	3.000	4429.32
15	4293.98	3.000	3.250	4153.18
16	4017.99	3.250	3.500	3877.29
17	3654.15	3.500	3.750	3513.55
Anchor				2047.80

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WV Department of Environmental Protection

105-01366

64/10/13 MIRU Nabors Stim Crew. Start pumping N2 at 33k scf/min. Pressure up to 5351 psi with approx. 220k and open pump out shoe for Stg 1. Continue pumping and increase rate to 90k scf/min (max rate due to truck problems). Shut down. Make repairs 600k scf away. Resume pumping at 1:30pm. Increase rate to 103k scf/min and pump total of 1.5 MM scf N2. Shut down and load 1.5" ball for Stg 2. Drop ball and let fall. Start pumping ball to sleeve with N2 at 22k scf/min. Land ball at 128k, up rate, and open sleeve at 4070 psi. Up rate and pump total of 1 MMscf N2. Shut down. Load 1.625" ball for Stg 3. Drop ball. Start pumping ball to sleeve at 22k scf/min. Land ball at 133k scf. Open sleeve at 4113 psi. Up rate and pump total of 1 MM scf N2. Back rate down and drop 1.75" ball for Stg 4. Repeat process for Stgs 4- Stg 16 (did not pump stg 17 due to its placement in hole).

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8
Max P	5016	4868	4648	4739	4430	4490	4413	4445
Avg P	4801	4.766	4611	4612	4406	4385	4346	4415
Max R	103.0	103.1	104.2	106.3	103.6	105.5	101.6	101.8
Avg R	101.6	101.3	102.4	104.8	103.0	103.6	101.1	101.5
Shut In	1680-10min	2800-isip	N/A	N/A	1744-5min	N/A	N/A	1793-5min
	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14	Stage 15	Stage 16
				· · · · · · · · · · · · · · · · · · ·				
Max P	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14	Stage 15	Stage 16
Max P Avg P	Stage 9 4509	Stage 10 4291	Stage 11 4124	Stage 12 4160	Stage 13 4236	<b>Stage 14</b> 3715	Stage 15 3573	<b>Stage 16</b> 3399
Max P Avg P Max R Avg R	Stage 9 4509 4444	Stage 10 4291 4283	Stage 11 4124 4084	Stage 12 4160 4113	Stage 13 4236 4111	Stage 14 3715 3656	Stage 15 3573 3512	Stage 16 3399 3378

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MAY 20 2013

WV Department of Environmental Protection WR-35 Rev (5-01)

DATE: 5/16/13

API#: 47-087-04727

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

### Well Operator's Report of Well Work

Farm name:George Scott_	Oper	ator Well No.:_	:HR 490		
LOCATION: Elevation:682'	Quad	lrangle:	Reedy WV 7.5'		
District: Reedy	County:	Roan	e		
District: Reedy Latitude: 11055' Feet South of 38 December 2015	eg. 55 N	Min. 00 Se	c.		
Longitude_9301'_Feet West of 81	Deg. 22 Mir	1. 30 Sec.			
	<b>-</b>				
Company:Hard Rock Exploration		<del></del>		_	
	Casing &	Used in	Left in well	Cement fill	
4.3 10.44.Nr H T 1. T 1	Tubing	drilling		up Cu. Ft.	
Address: 1244 Martins Branch Road	000	001	001	\	
Charleston WV, 25312	20"	20'	20'	N/A	
Agent: Marc Scholl Inspector: Ed Gainer	13 3/8" 9 5/8"	86'	86'	51ft3 CTS	
Date Permit Issued: 12/18/12	7"	580'	580'	300ft3 CTS	
Date Well Work Commenced: 1/29/13	4.5"	2329'	2329'	534ft3 CTS	
Date Well Work Completed: 2/25/13	4.5	7419'	7419'	123 ft3	
Verbal Plugging:	Gemma I as f	rom (3500' MI	45002TETD)	<u> </u>	
Date Permission granted on:		g from (3500' –		<del></del>	
Rotary x Cable Rig	Kan Gyro Log	3 HOII (3300 -	Suriace)		
Total Depth (feet): 7519'TMD, 4232'TVD	<u> </u>	1	RECEIV	ED -	
Fresh Water Depth (ft.): 37'			fice of Oil		
Troub trains Depart (10): 51		<u></u>	IICH OI WII	<del>a aac</del>	
Salt Water Depth (ft.): 1333', 1523			MAY 20 2	012	
7.000 7.000			MAT ZUZ	<del>///13</del>	
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): N/A		V	V Departr	nent of	
	•	Envir	onmental	Protection	
OPEN FLOW DATA		L-11VII	Official	1 10:00:	
Producing formationLower Huron_Sha	lePay zone	- , ,			
			)89'TVD - 42	32' TVD	
Gas: Initial open flow_ Trace MCF/d Oil					
Final open flow>2_MMCF/d Fir					
Time of open flow between initial and i					
Static rock Pressurepsig (surface	e pressure) afl	terHour	'S		
Second producing formation		e depth (ft)	<del></del>		
	Initial open flo		bl/d		
	inal open flow		bl/d		
Time of open flow between initial and f			S		
Static rock Pressurepsig (surface	e pressure) aft	erHou	ırs		
NOTE: ON BACK OF THIS FORM PUT THE I	OLLOWING:	1). DETAILS (	OF PERFORATI	ED	
INTERVALS, FRACTURING OR STIMULATIN	IG, PHYSICAI	CHANGE, E	TC. 2). THE WE		
LOG WHICH IS A SYSTEMATIC DETAILED,	<b>GEOLOGICAL</b>	RECORD OF	ALL FORMAT	IONS,	
INCLUDING COAL ENCOUNTERED BY THE	WELLOGORE.			•	
Signed: Junes They	1				
By: President					
Date: /5/17/2013					

Formation:	Top:	Bottom:
- Soil/Sand/Shale	0	1550
Salt Sand	1550	1772
Big Lime	1772	1817
Big Injun	1817	1840
Dev. Shale	1840	2234
Coffee Shale	2234	2248
Devonian Shale	2248	4232
Lower Huron Section	4070	4232

#### All depths shown As TVD

#### 2/6/13

Run 4.5" R-3 11.6ppg m-80 casing (183 jts) with 14 stg Packers Plus mechanical packer system to depth of 7419' KB. Land casing hanger w/8" 11.6ppf nipple. Drop 5 bbl water and 2 balls for pump out shoe. Land balls at 7500 scf/min and pressure up to 3100 psi. Pumped 145k scf N2. Finish at 5:40am – hold pressure for 20 min. Packers shut off gas rate. RU to perform annular cmt squeeze. Pump 5 bbls type 1 3% CaCl, let air out, pump 10 bbls, and then 7.5 bbls at 15 ppg (total 22.5 bbls cmt). Follow cmt with 3 bbls water.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVES SERVE AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

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### WV Department of Environmental Protection

	Stage	Sleeve	Sleeve ID	Ball Size	Packer
	1	7419.00	P/O Shoe	N/A	7242.42
	2	7156.08	1.500	1.625	7025.37
١	3	6934.23	1.625	1.875	6793.23
	4	6666.89	1.875	2.125	6538.88
	5	6412.34	2.125	2.250	6315.71
	6	6180.16	2.250	2.375	6083.56
	7	5962.31	2.375	2.500	5834.80
	8	5718.35	2.500	2.625	5595.12
	9	5472.47	2.625	2.750	5335.57
	10	5204.32	2.750	2.875	5111.92
	11	4986.17	2.875	3.000	4874.26
n	12	4741.41	3.000	3.250	4622.81
1	13	4513.46	3.250	3.500	4390.46
Į	14	4278.11	3.500	3.750	4154.01
Į	Anchor				2632.00

### 02/21/13

MIRU Nabors Stim crew. Pump at 24k scf/min and open Stg 1 shoe at 5324 psi. Slowly increase rate and pump total of 1MM scf N2. Shut down and load balls. Drop 1.625" ball for Stg 2. Start pumping ball down at 20k scf/min. Land ball at 145k scf. Continue pumping and open sleeve at 4572 psi. Up rate and pump total of 1MM scf N2. Back rate down to 4k scf/min and drop 1.875" ball for Stg 3. Pump ball to sleeve at 22k scf/min and land ball at 140k scf N2. Up rate and open sleeve at 4181 psi. Up rate and pump total of 1MM scf N2. Repeat process for STGs 4 – Stg 14.

	Stg1	Stg2	Stg3	Stg4	Stg5	Stg6	Stg7	Stg8	Stg9	<u>Stg10</u>	<u>Stg11</u>	Stg 12	Stg13	Stg 14
Max P	<u>5784</u>	<u>5836</u>	<u>5698</u>	<u>5848</u>	<u>5759</u>	<u>5848</u>	<u>5688</u>	<u>5855</u>	5608	5897	<u>5865</u>	5850	5402	4745
Avg P	<u>5717</u>	<u>5714</u>	<u>5620</u>	<u>5575</u>	<u>5636</u>	5754	5527	<u>5768</u>	5405	5795	<u>5586</u>	5808		4700
MaxR	<u>69.2</u>	<u>90.8</u>	<u>86.6</u>	101.6	<u>95,6</u>	<u>95,5</u>	101.2	102	106	100	100	90.1	104	107.7
Avg R	<u>67.4</u>	88	<u>85.2</u>	<u>99.4</u>	<u>95,2</u>	91.2	96,2	96.1	105.9	94	98.9	89.1	103	106
Shut	<u> 3990-</u>	N/A	N/A	2441-	N/A	N/A	2449-	N/A	N/A	2379-	N/A	N/A	2240	1989-
in	instant	<u></u>		5min			5min			5min				5min